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ECONOMIC AFFAIRS

No. 164

1980 Yearbook: Economic Sections



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CHINA REPORT
ECONOMIC AFFAIRS

No. 164

1980 YEARBOOK: ECONOMIC SECTIONS

Beijing and Shanghai ZHONGGUO BAIKE NIANJIAN 1980 [YEARBOOK OF THE GREAT ENCYCLOPEDIA OF CHINA, 1980] in Chinese Aug 1980

[The following are texts of selected sections on economic affairs in the ZHONGGUO BAIKE NIANJIAN 1980. For the section on agriculture see JPRS 78263, 10 June 1981, No 144 of CHINA REPORT: AGRICULTURE]

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GENERAL SITUATION OF NATIONAL ECONOMY OUTLINED

Beijing and Shanghai ZHONGGUO BAIKE NIANJIAN 1980 [YEARBOOK OF THE GREAT ENCYCLOPEDIA OF CHINA, 1980] in Chinese Aug 80 pp 53-56

[Article by Zhang Minliang [1728 2404 2733]]

[Text] Economy

The old China was a semi-feudal, semi-colonial nation whose national economy was extremely backward. After its founding, the new China embarked on large-scale economic construction, bringing about speedy advances in its industry, agriculture and the entire national economy. Ownership of the means of production in China is primarily of two types: socialist ownership by the whole people and ownership by socialist labor collectives.

The general policy of China in developing its national economy is to "take agriculture as the foundation and industry as the leading factor." On the basis of this policy, China has formulated its national economic plans for the development of its agriculture, light industry and heavy industry, in that order. In carrying out socialist construction, China has also adopted the policy of "maintaining independence, keeping the initiative in our own hands, practising self-reliance and hard struggle, and building up the country with industry and thrift," as well as paying attention to the simultaneous development of industry and agriculture, light and heavy industry, foreign and indigenous enterprises, and large and medium-to-small enterprises, according to the principle of walking on two legs.

In late 1978, at the Third Plenum of the 11th Party Congress, an important decision was made to shift the focus of work to the realization of the four modernizations and carry out the policy of readjustment, restructuring, consolidation and improvement. This brought about a change in the sluggish national economy. The central authorities also issued two documents on agriculture. The implementation of these two documents signified the application of the party policy in rural areas, and brought some initial prosperity to the rural economy. More than 9 million unemployed urban persons found jobs. Some workers had their wages readjusted. Greater attention was paid to the development of the textile industry and light industry, and capital construction was curtailed to some extent. Some enterprises began to enjoy greater decision-making power on a trial basis. The people improved their living conditions. In 1979, the gross value of industrial and agricultural output increased to 617.5 billion yuan, overfulfilling the state plan by 1.5 percent and showing an 8.5 percent increase over 1978. The national income totaled 337 billion yuan, an increase of 7 percent over that of 1978, based on fixed prices.

The "readjustment, restructuring, consolidation and improvement" of the national economy. During the Great Cultural Revolution, the national economy was so badly sabotaged by Lin Biao and the "gang of four" that it was at the brink of collapse. After the "gang of four" was smashed, the economy began to recover rapidly. But although the situation was changing for the better, it was discovered there was a serious dislocation in national economy. For this reason, at the 1978 work conference of the Party Central Committee, the policy of readjustment, restructuring, consolidation and improvement was adopted.

Since the implementation of this policy in 1979, China has gradually readjusted its national economy, and some initial achievements have been seen.

Agricultural foundation strengthened. In 1979, the Party Central Committee issued two documents on rural problems to implement the party policy on rural areas. In the meantime, the state adopted many measures to improve agriculture. To begin with, it raised by about one-fourth the purchasing prices of 18 agricultural and subsidiary products, such as grains, cotton, oilseeds, hogs, poultry, and eggs. The increase in purchasing prices for output which exceeded the quota was even greater. The state also reduced or exempted the agricultural taxes for low-income rural communes and production brigades and teams as well as the industrial and commercial taxes for enterprises operated by communes and production brigades and teams. This allowed the peasants, the communes and production brigades and teams to increase their income by more than 9 billion yuan. In addition, the state increased its investments in agriculture from the 10.7 percent of its total investment in capital construction in 1978 to 14.0 percent in 1979.

Faster development in the textile and light industries. To readjust the proportionate development of the light and heavy industries, the state started in 1979 to give "special considerations" to the supply of fuel, motive power, raw materials and other supplies for the textile and light industries, and in addition provided financial support. In 1979, the state allocated much more capital for technical improvements in the textile and light industries than in 1978, and also increased the proportion of textile and light industrial investments in the state's capital construction plan. The banks also increased their loans to the textile and light industries. In addition, the state made available to the textile and light industries a certain amount of foreign exchange for importing raw materials and other supplies, and directed the heavy industry and military industry to produce light industrial products. Thanks to these measures, the light industry showed quick development in the latter part of 1979, there was an increase in textile and light industrial products, and market purchases and sales both improved.

Capital construction front being shortened. In 1979, the state took the job of shortening the capital construction front as an important measure in readjusting the national economy. It resolutely discontinued and postponed the projects which were premature or which were not urgently needed by the state. According to the plan in early 1979, 561 major projects were to be discontinued or postponed. Of these, thanks to a concerted effort, more than 330 have actually been discontinued or postponed.

Some industrial plants which were developed indiscriminately have been converted, amalgamated, closed or suspended. China now has more than 350,000 industrial enterprises. It is impossible to keep all of them adequately supplied with fuel, motive power, raw materials and other supplies. The various localities are now

engaging in converting, amalgamating, closing and suspending those enterprises which were developed indiscriminately, which required the consumption of large quantities of raw materials or which suffered losses over a long period of time. According to incomplete statistics, more than 2,000 enterprises belonging to this category were converted, amalgamated, closed or suspended.

The state has improved the living conditions of the people in cities and towns by finding employment for the unemployed, raising the income of workers and building more living quarters for them.

[Article by Zhang Minliang [1728 2404 2733]]

Finance

Since the founding of the People's Republic of China, thanks to the continual development of industrial and agricultural production, the state finance has shown improvement year after year. Both income and expenditures have increased. They have largely been in balance, with a little surplus in income. The state has relied for its financial income mainly on the taxes and profits from state-operated enterprises, which account for over 90 percent of the total income of the state. The government formulates a state budget each year. As a basic state financial plan, it is an important part of the national economic plan. The state budget consists of the central budget and local budgets. The constitution of China provides that the state budget and local budgets are subject to the examination and approval of the people's congresses at the various levels. The state budget is controlled according to the principle of democratic centralism--it is placed under a unified leadership but under the control of authorities at different levels. The policy of "maintaining a balance between incomes and expenditure with a little surplus in income" is followed. The fiscal year runs from 1 January to 31 December.

State budgeted incomes include the incomes of enterprises and other business organizations, industrial and commercial taxes, salt tax, customs duties, agricultural taxes and other incomes. State budgeted expenditures include economic construction expenditures, sociocultural, educational, scientific, and public health expenditures, national defense expenditures, administrative expenditures, and others.

The 1978 state final accounting of incomes and expenditures shows that the total income amounted to 112.111 billion yuan and the total financial expenditure amounted to 111.093 billion yuan, showing a favorable balance of 1.018 billion yuan. Compared to 1977, financial income increased 28.2 percent, and expenditures 31.7 percent.

In 1979, the tasks of state finance were: On the basis of making a great effort to consolidate enterprises and develop production, to further tap potential, open new financial sources, and increase financial income. In light of the readjustment of the national economy, to make rational arrangements for various expenditures, strengthen agriculture and light industry, and strengthen the weaker links in the national economy such as the coal, electric power, oil, transportation and building materials industries. To strengthen cultural, educational, public health, and scientific undertakings. To strengthen national defense and war preparedness. To gradually improve the living conditions of the people. Consolidate financial work, do a good job in controlling financial income and expenditures, uphold the policy of using the amount of income to determine expenditures, and make an effort to strike a balance between income and expenditures. In a resolute, positive and

sure-footed manner, embark on reforming the financial control system and the financial systems of enterprises to bring the enthusiasm of central and local enterprises and their workers into full play.

According to the draft 1979 state budget, the total state income was 112 billion yuan, and so was the total state expenditure, of which expenditures for capital construction amounted to 39 billion yuan, that of national defense, 20.23 billion yuan, and that of culture, education, public health, and scientific research 12.08 yuan.

Banking

Since the founding of the People's Republic of China, the Central People's Government has adopted a series of measures to take over the banking organizations of the bureaucratic capitalist system, abolish all the banking prerogatives of imperialism in China, forbid financial speculations, carry out socialist reform of private banks, unify the control and issuance of currency, replace the bogus Jinyuanquan currency with Renminbi, forbid the circulation of foreign currency, and establish a unified and stable socialist currency system and financial and banking system.

Renminbi was first circulated in China in December 1948. Following the basic stabilization of the financial situation in China, to improve and consolidate the currency system, the People's Bank of China started to issue the new Renminbi on 1 March 1955 to replace the old Renminbi which was in larger denominations. The exchange rate between the new and old people's currencies was one to 10,000.

The People's Bank of China is the state bank of the People's Republic of China. It was founded in December 1948. It serves as the central bank for credit loans, settling of accounts, and cash activities, and as the only organization to issue currency. In October 1954, the Construction Bank of China was established to handle appropriations for capital construction for the state. It has branches in the various provinces, municipalities and autonomous regions. The Bank of China was reorganized to specialize in foreign exchange, centralizing the handling of international accounts, international credit, foreign trade, credit, and the purchase and sale of foreign exchange, etc., for the entire country. In addition to these banks, there are also the Agricultural Bank of China, rural credit cooperatives and other credit organizations.

The credit system in China is characterized by the centralized control of credit by banks. All loans must be handled by banks, and all the loans must be issued according to plan and used as stipulated.

Since the founding of the new China, following the continual improvement in the livelihood of the people, the urban and rural areas have continually developed their savings business. Deposits received by the People's Bank are divided into two categories: public deposits and private deposits. All enterprises, agencies, organizations, military units, schools and collective economic units must deposit any cash which is over and above the amounts permitted to be kept on hand in banks. The urban and rural people may deposit their money in banks as personal savings, entirely on a voluntary basis. To promote savings, the Party and state have adopted a correct policy: private savings ownership is protected, savings deposits are voluntary, freedom of withdrawal is guaranteed, savings deposits will bear

interest, and confidentiality is kept for savings deposit holders. Since the founding of new China, urban and rural savings deposits have grown continually. In 1979, savings deposits in cities and towns throughout China totaled 20.26 billion yuan, a 30.8 percent increase over 1978, and that in rural areas totaled 7.84 billion yuan, a 40.8 percent increase over 1978.

China has developed its insurance business to a certain extent also. The state instituted the People's Insurance Company of China with branches in many areas at the beginning of the liberation. It conducted extensive insurance business at home and abroad. Later, this business was suspended for a long time, until January 1980 when it began to recover. The policy of domestic insurance in China is to serve the interests of production and of the masses on the basis of voluntary application for insurance by the clients themselves.

[Article by Guo Hongli [6753 1347 7787]]

Industry

Industry in the old China was very backward, with only a few light industry and textile industries in the coastal cities. In the past 30 years since the founding of the new China, however, a relatively complete industrial network has largely been established. An industrial base of heavy and light industries was founded, including machine-building, metallurgical, coal, oil, chemical, electric power, electronic, textile and other industries. China now has more than 6,000 large and medium-size enterprises. In addition, the 50,000-odd rural communes in China have established more than a million small enterprises according to local conditions. During the period 1950 to 1978, China enjoyed an increase in total industrial production value of 13.5 percent each year. Its total industrial production value in 1979 amounted to 459.1 billion yuan, an 8.5 percent increase over 1978, and its light industrial production value amounted to 198 billion yuan, a 9.6 percent increase over 1978, surpassing the rate of increase in heavy industrial production value by 7.7 percent.

After the "gang of four" was smashed, China adopted the policy of readjustment, restructuring, consolidation and improvement in developing its industry and promoted a mass movement for increasing production, practicing economy, increasing income and cutting down expenditures. By 1979, China also adopted the policy of relying both on planning and market conditions in regulating its economy, with greater emphasis on planning. It curtailed some of its capital construction projects, strengthened its textile and light industries, and granted greater autonomy to enterprises, thereby greatly promoting the development of production.

Agriculture

Prior to the founding of the new China, our country's agricultural production was very backward. No progress was made in agriculture for a long time. With the founding of the new China, the Party and government paid great attention to the development of agricultural production, adopting the basic policy of agricultural collectivization, to be followed by mechanization and electrification. The land reform campaign spelled the end of the feudal exploitation type of land ownership. The state confiscated about 700 million mu of land from the landlords and rich peasants, and redistributed it to the more than 300 million peasants who had little or no land. After that, the peasants were directed onto the road to

collectivization, organizing themselves into mutual-aid teams, primary cooperatives, advanced cooperatives and, by 1958, into people's communes. At present, China has more than 52,000 people's communes and 2,047 state farms.

China has adopted the following policy in developing its agriculture: Take food grains as the key link in the overall development of agriculture, suitably centralize the control of agricultural production while paying due attention to local factors, and promote at the same time the development of agricultural, forestry, animal husbandry, subsidiary and fishery production.

In 1962, following the promulgation of the "People's Commune Work Regulations (Draft)," the Chinese peasants greatly developed their work enthusiasm, quickly reversing the stagnant situation prevailing in the previous 3 years. Agricultural production was restored and developed. Nevertheless, during the period when Lin Biao and the "gang of four" were riding high, agricultural production development slowed down again. Some areas even suffered a reduction in agricultural production. After the Third Plenum of the 11th CCP Central Committee, the state implemented the two documents on agricultural development issued by the Party Central Committee and the party policy on rural areas, making a concerted effort to quickly develop agricultural production. Much attention was paid to the material well-being of the peasants. In 1979, the state raised the purchasing prices of 18 agricultural and subsidiary products, upheld the private plots for commune members, and permitted them to engage in household subsidiary production and trade in rural market-places, thereby bringing the socialist enthusiasm of the broad masses of peasants into full play. As a result, although a relatively serious natural calamity hit China in 1979, the peasants in most areas in China increased their agricultural production and income. The total agricultural production value in 1979 in China was 8.6 percent higher than that of 1978.

Commerce

China's commerce is a socialist commerce established on the basis of socialist public ownership. In this field of work, the state adopted the general policy of "developing the economy and assuring supplies." It organized the circulation of commodities in China in a manner to unite cities with rural areas, industry with agriculture, and producers with consumers.

Commerce in China is mostly state-operated both in cities and rural areas. It conducts more than 90 percent of the commodity retail business in China in terms of business volume. The state has administrative organizations as well as control and operational organs for the enterprises at every level. There is a commercial network covering all cities and towns and industrial, mining, and forest areas. There are supply and marketing cooperatives which have their own control and operational organizations. They are commercial units of the masses established on the basis of voluntary participation, democracy and mutual benefit. Following the development of the socialist revolution and construction and the increase in the accumulation of capital on the part of the supply and marketing cooperatives, these cooperatives have advanced from their previous collective ownership to ownership by the whole people.

The control of commodities is carried out according to the general policy of overall planning and administrative control at different levels. Price control is an integral part of the planned control by the state. The State Bureau of Commodity Prices handles the price control policy, regulates the general price level, and

readjust commodity prices, seeing to it that they are in good balance. Under overall planning by the state, the retail prices of the major daily necessities in China have been stable in the main. On many occasions the state has reduced the prices of pharmaceutical products, brought closer the prices of industrial and agricultural products, raised the purchasing prices of agricultural and subsidiary products, and lowered the prices of industrial supplies for agriculture. The difference between industrial and agricultural products today is reduced by more than 40 percent as compared to that of 1952. Price differentials between different localities have been reduced, and the commodity prices in rural markets have also gone down somewhat.

Thanks to the increase in agricultural and industrial production and to the import of some consumer goods in suitable amounts, China enjoyed a brisk and active market in 1979. The total volume of agricultural and subsidiary products purchased by the state amounted to 58.68 billion yuan, exceeding that of 1978 by 27.5 percent. The actual increase amounted only to 4.5 percent, however, if the increase in purchasing prices is discounted. The total volume of industrial products purchased by the state amounted to 140.56 billion yuan, a 9.8 percent increase over 1978. The total volume of retail social commodities amounted to 175.25 billion yuan, a 14.7 percent increase over 1978.

[Article by Li Hongxiang [2621 1347 4382]]

Foreign Trade

After the founding of the People's Republic of China, the state formulated its foreign trade policy according to an overall plan. Arrangements for foreign trade were made according to the national economic plan, and foreign trade was conducted according to the policy of independence and self-determination.

China actively established trade relations with Third World countries on the basis of equality, mutual benefit, the exchange of goods needed by one another, respect to one another's sovereignty, and the needs and capabilities of the states concerned. By 1979, China had established trade relations with more than 130 states and regions of the Third World.

With regard to countries of the Second World, China actively developed trade with them on the basis of equality and mutual benefit, and exchanged its products with them for advanced technical equipment and other supplies needed by China for socialist construction. In 1979, the volume of trade between China and Japan exceeded US\$6 billion. Following Japanese Premier Ohira's visit to China, Japan planned to extend a loan of 50 billion yen to China in 1979 to assist in the construction of six projects in China. It also decided to grant most favored nation status to China in customs duties beginning April 1980. In 1979, the total volume of trade between China and the European Common Market amounted to US\$5 billion, an increase over 1978 of more than 50 percent.

Since the reestablishment of diplomatic relations between China and the United States on 1 January 1979, trade between the two countries has shown considerable development. In 1979, Sino-U.S. trade amounted to US\$2.45 billion, showing an increase over that of 1978 by 147 percent. In 1979, U.S. Vice President Mondale

came to China to sign an agreement, offering U.S. technical assistance in developing hydroelectric power in China. On 1 February 1980 when Sino-U.S. Trade Agreement began to take effect, the two countries recognized each other as a most favored nation.

[Article by Zhang Minliang [1728 2404 2733]]

Communications, Postal Service and Telecommunications

Railways. Since the liberation, China has quickly developed its railways. From 1952, China has built more than 30 trunk lines, including the Chengdu-Chongqing and Tianshui-Lanzhou railways. By 1979, China's railway mileage open to traffic was 1.3 times more than that at the time of the liberation, and the freight volume was 18 times greater. Beginning in 1952, China began to build its own steam locomotives. At present, there are more than 30 locomotive and rolling stock plants in China engaging in building steam locomotives, internal combustion locomotives, electric locomotives, large passenger cars, and new passenger car models. In 1979, the total freight volume on railways amounted to 1,094.95 million tons, showing an increase over that of 1978 by 1.9 percent. The total volume of cargo turnover on railways amounted to 558.8 billion ton-kilometers, a 4.8 percent increase over 1978, and the amount of passenger transportation on railways totaled 121.4 billion man-kilometers, an 11.3 percent increase over 1978.

Highways. On the eve of the liberation, there were 80,000 kilometers of highways in China open to traffic. These highways were characterized by their low standards and poor conditions. By the end of 1979, the total mileage of operational highways in China was 890,000 kilometers, more than 11 times that at the founding of the new China. In 1979, the total freight volume on highways amounted to 815.56 million tons, showing a decrease of 4.3 percent as compared to that of 1978; the total volume of goods transported on highways amounted to 26.8 billion ton-kilometers, showing a decrease of 2.2 percent. These decreases were caused by a reduction in business on the part of the transportation departments, as many industrial and commercial enterprises started to transport more goods by themselves. The amount of passenger transportation on highways totaled 60.3 billion man-kilometers, an increase of 15.7 percent over 1978.

Ocean shipping. In the past 30 years, the Chinese ocean shipping fleet has gradually developed from nothing to a major industry. By the end of 1979, the Chinese ocean shipping fleet was composed of more than 400 ships including bulk-load, general cargo, tankers, passenger ships, roll-on roll-off, and container ships totaling more than 7 million tons. They ply the waters of the three great oceans, eastward to Japan and Canada, the United States and Latin America across the Pacific; westward to South and West Asia, Africa and European countries through the Indian Ocean, the Suez, the Mediterranean, and the Atlantic Ocean, sometimes by way of the Cape of Good Hope; southward to Southeast Asia and Oceanian countries, and northward to Korea. The Chinese fleet has visited more than 100 countries and regions, and called on more than 400 ports.

Inland river shipping. In 1949, the Chinese inland river waterways totaled 73,000 kilometers, including 24,200 kilometers of motor vessel navigable waterways. By 1979, the inland river waterways had increased to more than 136,000 kilometers, including more than 79,000 kilometers of motor vessel navigable waterways. The

amount of goods handled by inland river shipping accounts for one-fifth of the total amount of goods transported in China. Inland river shipping is one of the most inexpensive means of transportation in China.

Civil aviation. In December 1949, the new China established its Civil Aviation Bureau (now known as Civil Aviation Administration of China). By 1979, after 30 years of construction and development, it had established 158 air routes, linking more than 80 cities in China, totaling about 108,600 kilometers. There are direct flights from all provinces, municipalities and autonomous regions to Beijing. In addition, there are 15 international air routes, totaling 51,300 kilometers. At present, China has entered into aviation agreements with more than 30 countries, and established business or financial relations with more than 100 foreign airline companies. In 1979, the amount of air freight totaled 79,900 tons, a 25.2 percent increase over 1978, and the amount of goods shipped by air totaled 123,400 ton-kilometers, a 27.2 percent increase over 1978. The volume of passengers totaled 3.5 billion man-kilometers, a 25.3 percent increase over 1978.

Ports. Prior to the liberation, the largest ship that could be docked in China was 10,000 tons. After the liberation, China completed the Tianjin New Port (1952), the Zhanjiang Port (1956), the Dalian Nanyuwan Oil Port (for ships of 100,000-ton class), the Qinhuangdao Oil and Coal Wharf, and the Huangpu Oil and Ore Wharf. Since 1973, China has established 42 deep-water berths to accommodate ships of over 10,000 tons, and has expanded and renovated the Shanghai, Huangpu, Dalian, Qinhuangdao and Qingdao ports to improve their mechanized loading and unloading facilities, thus enhancing their ship loading and unloading capacity. In 1979, the coastal ports in China loaded and unloaded a total of 212.57 million tons of cargo, surpassing that of 1978 by 6 percent. At present, many ports are open to foreign trade shipping. The number of foreign ships calling on China's ports totals over 10,000 a year.

Bridges. The old China built very few bridges. There was no bridge spanning the 10,000-li Changjiang, and there was only one highway bridge across the Yellow River, built by a French engineer. At the time of the liberation, the stone-arch bridge at Zhaozhou, built more than 1,300 years ago, was still the bridge with the largest span in China. After liberation, bridge construction developed by leaps and bounds. More than 30 highway bridges were built across the Yellow River. By now, there are about 128,000 highway bridges in China, totaling more than 3.2 million meters. With the exception of some of the bridges in forest areas which were built with timber, over 90 percent of highway bridges in China are of permanent structure.

Postal and telecommunications services. China has greatly developed its postal and telecommunications services in the past 30 years. The postal and telecommunications network now covers all the urban and rural areas in China. Telecommunications is advancing from relatively primitive to more sophisticated operations. The postal service has also advanced from backward and clumsy manual labor to mechanization and automation. With the successful development of coaxial cable, 1,800-channel carrier-wave systems, 960 channel microwave telecommunications systems, and the successful study and installation of such telecommunications facilities as facsimile transmitters, data transmitters, automatic switchboards for long-distance telephone and Chinese character decoders, the Chinese postal and telecommunications services have taken on a new look.

Since 1969, China has established a microwave telecommunications network having 600 microwave electronic-tube channels and 960 transistor channels for transmitting black-and-white as well as color television programs, and also providing telephone services between Beijing and 26 provinces, municipalities and autonomous regions. In addition, newspaper facsimile transmission services have been established between Beijing and 9 other cities including Chengdu, and one-way facsimile transmission service has been established from Beijing to Guangzhou.

Chinese postal routes total 4,812,000 kilometers, of which 30 percent, or a little over 1.4 million kilometers, is covered by motorized service. At present, China has about 50,000 postal and telecommunications offices, of which about 30,000 are in rural areas. About 60 percent of the communes in China now have their own postal and telecommunications offices. Some 4.26 million kilometers of the postal routes are in rural areas. China's rural telephone lines total 1.8 million kilometers. Of the Chinese communes, 99.8 percent have direct postal service. Postal and telecommunications services have shown tremendous development in China. The total business volume in 1979 amounted to 1.255 billion yuan, surpassing that of 1978 by 7.7 percent. Specifically, the increase in the volume of postal business amounted to 8.6 percent, that of telegraph, 5.9 percent, and that of long-distance telephone, 10.8 percent.

China has established direct postal services with more than 110 countries and regions, and direct telecommunications services with 47 countries and regions. China now has three satellite earth stations to maintain contacts with many countries. A 480-channel submarine cable was installed between China and Japan, starting communications service on 25 October 1976. A 16-line radio telephone service has been established between Peking, Shanghai and Tokyo.

[Article by Zhang Minliang]

International Trade and Economic Cooperation

Upon its founding, the People's Republic of China immediately abolished all the imperialist prerogatives in China, regained control over its customs operations, and adopted a policy to control its foreign trade. The state formulated its foreign trade policy according to an overall plan, so that foreign trade was carried out according to the national economic plan, on the basis of maintaining independence, keeping the initiative in our own hands, and conducting foreign trade according to the basic principles of equality, mutual benefit, and the exchange of goods according to each other's needs. Just as pointed out by Mao Zedong, we should "rely mainly on our own efforts while making external assistance subsidiary." Accordingly, on the basis of relying mainly on our own efforts, we may import some necessary advanced technology and equipment to speed up the development of our national economy.

In 1964, on behalf of the Chinese Government, Premier Zhou Enlai announced the 8-point Chinese foreign aid principle as follows: (1) The Chinese Government offers foreign aid consistently on the basis of equality and mutual benefit. It has never taken such aid as one-sided favor, but considers it as a mutual thing. (2) In providing foreign aid, the Chinese Government strictly respects the sovereignty of the recipient country, and extends aid with no strings attached and without any demands for prerogatives. (3) The Chinese Government offers economic aid in the

form of interest-free or low-interest loans. Repayments for such loans may be prolonged to reduce the burdens of the recipient countries. (4) In offering foreign aid, the Chinese Government does not aim at foreign dependence on China, but rather at helping the recipient countries step on the road to independence through their own efforts and through development of their economy independently. (5) The Chinese Government tries its utmost to confine the projects with which it helps the recipient countries to those which require small investments but yield fast results to enable these countries to increase their income and accumulate wealth. (6) The Chinese Government offers its equipment and supplies of the best quality at negotiated prices according to international market prices. If the equipment and supplies fall short of the specifications and quality agreed on, the Chinese Government guarantees their replacement. (7) In offering any type of technical aid, the Chinese Government assures that the recipient countries' personnel will fully master the technology required to benefit from such aid. (8) The experts sent to the recipient countries by the Chinese Government will receive the same material benefits as the specialists of the recipient country, and are not allowed any special requests or benefits.

China has actively developed its foreign trade according to its foreign trade policy. From its founding to 1979, China had established trade relations with more than 170 countries and regions, and had signed a trade agreement with the European Common Market.

Beginning in 1957, China has held Chinese export commodity Trade Fairs in Guangzhou each spring and autumn. By 1979, 46 such trade fairs had been held. The number of people participating in such fairs, including foreign friends, overseas Chinese, Taiwan compatriots living in foreign countries, and compatriots in Hong Kong and Macao has increased from the 1,200-odd people from a little over 20 countries and regions at the first fair to more than 24,000 from more than 170 countries and regions. The variety of goods on display and the volume of trade also showed tremendous increase. Since its founding to 1978, the New China held almost 300 economic and trade exhibitions in more than 90 countries in Asia, Africa, Europe, America and Oceania. In the meantime, it also accommodated more than 110 consolidated and specialized exhibitions in China by more than 20 foreign countries. In 1978, the first farm machine exhibition was held in China under the sponsorship of 12 countries. These activities greatly promoted the development of foreign trade and economic cooperation between China and other countries in the world. In his "Government Work Report" delivered to the Second Session of the Fifth National People's Congress in June 1979, Premier Hua Guofeng said that in the new Long March to realize the four modernizations, China needs "a great development in its foreign trade."

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ECONOMY, FINANCE, BANKING, TRADE REVIEWED

Beijing and Shanghai ZHONGGUO BAIKE NIANJIAN 1980 [YEARBOOK OF THE GREAT ENCYCLOPEDIA OF CHINA, 1980] in Chinese Aug 80 pp 290-312

[Text] China Economy

[Article by Wei Liqun [7614 4409 5028]]

Readjustment and Development of the Chinese National Economy

In early 1979, based on the development of the national economy and existing problems, the party and government decided that after shifting the focus of work in the nation to the realization of socialist modernization, concentrated efforts be made in the next 3 years to readjust, restructure, consolidate and improve the national economy. The readjustment calls for readjusting the proportionate development of the various branches of the national economy which was undermined by Lin Biao and the "gang of four," so that the national economy can be developed in a harmonious manner, and so that a rational ratio will be maintained between accumulation and consumption. The restructuring calls for restructuring the entire economic management system step by step to bring the superiority of the socialist system into full play. The consolidation calls for properly reorganizing existing enterprises, particularly those which are suffering from bad management, so that all the enterprises will be on the right track in all their operations. The improvement calls for substantially raising production, technological, and management levels.

Through the implementation of this policy, remarkable successes were achieved in 1979.

1. Agriculture was realistically strengthened. In the implementation of the two documents, i.e. "Decision of the CCP Central Committee on Certain Problems Concerning Speeding up the Development of Agriculture" and "Work Regulations Concerning Rural People's Communes (Trial Draft)," sincere efforts were made to carry out the Party policy on rural economy and raise the purchase prices of agricultural and subsidiary products to bring about unprecedented prosperity in the vast rural areas in China. The state spent about 10.8 billion yuan to raise the purchase prices of agricultural and subsidiary products. This upward readjustment in prices was the largest since the founding of the New China. In addition, the agricultural taxes

of some areas were reduced or exempted, and the business taxes of all enterprises operated by communes and production brigades and teams were exempted, costing the state over one billion yuan. In the meantime, the state increased its investments in agriculture, thereby increasing the proportion of agricultural investment in capital construction investment as compared to that of 1978, and both the central and local authorities spent more money on agriculture than before. Furthermore, all industries and trades also increased their support to agriculture. All these factors contributed to the development of tremendous enthusiasm in agriculture by the broad masses of peasants, thus bringing about an overall increase in agricultural production. In 1979, the total agricultural output value amounted to 158.4 billion yuan, an increase of 8.6 percent over that of 1978, a bumper harvest year. Grain production totaled 664.23 billion jin, an increase of 54.7 billion jin over that of 1978; cotton totaled 44.14 million piculs, an increase of more than 0.8 million piculs; oil seeds, 128.7 million piculs, an increase of 24.34 million piculs; and the number of live hogs, was 319.705 million, an increase of 18.415 million. The output of sheep, poultry, eggs, and silkworm cocoons also increased to varying degrees.

2. The proportional relationships within the industrial sector began to improve, and there were initial successes in the reorganization of enterprises. In 1979, the central and local authorities adopted many measures to speed up the development of the textile and light industries, such as increasing their investments, providing more bank loans, supplying fuel and power on a priority basis, and importing quantities of raw and processed materials. The rate of growth in the textile and light industries throughout the nation was 9.6 percent, surpassing the 7.7 percent growth of heavy industry. The growth of the chemical fertilizer industry and other industries in support of agriculture also picked up speed. Initial successes were achieved in the readjustment and consolidation of industrial enterprises. Incomplete statistics compiled in 21 provinces, municipalities, and autonomous regions show that they closed, suspended, merged and converted 3,600 enterprises which were characterized by high consumption of raw materials, had inferior products or products with low consumer demand, and operated at a loss over a long period of time. Thanks to these readjustments and consolidations, industrial production in China began to develop in a realistic and steady manner. In 1979, the gross value of industrial output in China amounted to 459.1 billion yuan, an increase over that of 1978 by 8.5 percent. The output of 89 of the 100 major industrial products overfulfilled state plans ahead of schedule. Steel production amounted to 34.48 million tons, an increase of 2.7 million tons over that of 1978; power generation, 281.95 billion kilowatt hours, an increase of 25.35 billion kilowatt hours; chemical fertilizer (calculated on the basis of 100 percent effective components) 10.654 million tons, an increase of 1.964 million tons; and cotton yarn, 2.63 million tons, an increase of 0.248 million tons. There was an overall improvement in the economic and technical indicators in industrial production. According to statistics, the quality indicators showed improvement in 30 major products in the metallurgical, coal, petroleum, chemical, building material, textile, and light industries. Ten of the 11 major power grids in China achieved a frequency stability rate of over 99 percent. In the steel industry, the production of five steel products in short supply in China, including small shaped-steel products, wire rods, thin plates, welded steel pipe and high-grade shaped steel, accounted for 61.6 percent of the total output of steel products, a 22 percent increase over 1978. In the machine building industry, enterprises of the First Ministry of Machine Building Industry fulfilled plans for the trial production of 856 new products. This was a 12.5 percent increase over 1978, and the best showing in more than 10 years.

Remarkable successes were achieved in energy conservation. In 1979, some 23 million tons of coal, more than 1.5 million tons of fuel oil, and more than 6 billion kilowatt hours of electricity were saved through conservation. Although the increase in coal, petroleum and hydroelectric power amounted only to 3 percent in 1979, the growth rate of industrial production as a whole exceeded 8.5 percent. Outstanding results were also achieved in the development of communications, transportation, postal and telecommunications services. State plans for railway and waterway freight volumes were overfulfilled.

3. The capital construction front was shortened, and the results of investments improved. In 1979, the proportionate distribution of investments was suitably readjusted, so that more investments were made in agriculture and the textile and light industries. At the same time, more investments were made in nonproductive construction projects, such as workers' housing, municipal public utilities, and cultural, educational and public health construction projects. This improved the relationship between "flesh" and "bones." The investments in nonproductive construction projects accounted for 27 percent of the total investments of the state, topping that of the past 20 years since 1958. In 1979, 348 large and medium-sized projects were suspended or postponed in China. This enabled the state to focus its limited financial and material resources more on key projects and urgent projects, thereby improving the results of its investments. In 1979, 128 large and medium-size projects were completed, 29 more than in 1978. The proportion of capital construction investment represented by new fixed assets rose from 74.3 percent in 1978 to 83.7 percent. Because of the reduction in capital construction investment, plus the suitable reduction in accumulated funds in other fields, the rate of accumulation (that is, the ratio of accumulated funds to national income) dropped a little from the 36.6 percent of 1978.

4. The supply of commodities increased substantially, and market conditions in both urban and rural areas became more active. In 1979, commercial departments purchased commodities totaling 199.24 billion yuan, a 14.5 percent increase over 1978. The retail volume of social commodities totaled 175.25 billion yuan, an increase of 14.7 percent over 1978, or a real increase of 12.4 percent if price changes are taken into account. This was the largest increase in 20 years. In many medium-to-large cities, pork was obtainable in abundant quantities, and the supply of other non-staple food items also improved. More everyday industrial products were supplied to rural areas.

5. Economic and technical exchanges with foreign countries were carried out in many forms, and import-export trade grew substantially. In 1979, the volume of foreign trade totaled 45.5 billion yuan, an increase of 28 percent over 1978, of which the volume of exports totaled 21.2 billion yuan, an increase of 26.3 percent. During 1979, new avenues were opened in obtaining foreign investments and importing foreign technology, enabling us to gain some experience in this field.

6. New developments were achieved in science, education, culture, public health and sports. In 1979, successes were achieved in 2,790 major scientific and technological research projects, and 42 inventions were approved by the state. In addition, basic theoretical research reached advanced international levels in certain fields. The total enrollment of students in institutions of higher learning reached 1.02 million, an increase over 1978 of 164,000 and the highest level

ever. The total enrollment of students taught through television amounted to 280,000, and that in factory-operated colleges and spare-time colleges, 580,000. There were also developments in the fields of culture, public health and sports.

7. Some improvements were achieved in urban and rural living standards. In 1979, each peasant averaged an income of 83.4 yuan from the collective, an increase of 9.4 yuan over 1978. During 1979, the number of unemployed youths and other personnel placed in jobs in cities and towns nationwide, and the graduates from colleges and vocational schools given assignments by the state came to 9.026 million. Beginning in November 1979, more than 40 percent of the workers in China had increases in their wage scales or readjustments in their wage categories. Even with the labor force expanding noticeably, there was still a substantial increase in the average pay of personnel and workers. In 1979, the average pay of personnel and workers in the employment of units under ownership of the whole people amounted to 705 yuan, an increase over 1978 of 61 yuan. Further, some 62.56 million square meters of new living quarters were built for personnel and workers. This was the most housing built in any year in China's history, and enabled 5 million people to move into new living quarters.

8. With regard to the economic management system, some studies and reforms were carried out. Thousands of different enterprises engaged in trial runs to expand their autonomy, in which they were allowed to retain a percentage of their profits, increase the rate of depreciation of their fixed assets, expand their production, and regulate their production mainly by planning but also by market conditions. In foreign trade, a plan was tried whereby the enterprises concerned could retain a portion of their foreign exchange, and in capital construction, funds were obtained by units from bank loans on trial basis rather than from allocations by the state. Although these reforms were preliminary and partial, they yielded remarkable results and provided useful experiences for carrying out overall reform in the future.

The national economic readjustment carried out in 1979 yielded good results in many fields. In some cases, the results were better than anticipated. Naturally, the readjustment of the national economy is an onerous and complex task, and there are many problems to be solved. For instance, the production plans for cotton, beets and aquatic products for 1979 were not fulfilled, the readjustment and reorganization of industrial enterprises were carried out too slowly, there was no marked change in the low yield of investments, some of the projects which should have been suspended or postponed were still being built, the reform of economic management system just started was in need of further progress, some localities and units increased their commodity prices arbitrarily or in a disguised form and thereby increased the burden of the masses in their daily lives, and too many bonuses were issued on much too egalitarian a basis. The Party and government are adopting measures to sincerely solve these problems in order to do a good job in fulfilling the tasks concerning the readjustment, restructuring, consolidation and improvement of the national economy.

Gross Industrial and Agricultural Output Value in China
(in billion yuan)

Year	Gross ind. & agri. output value	Gross agricultural output value	Gross industrial output value	Within gross industrial output value	
				Light ind. output value	Heavy ind. output value
(Calculated in terms of 1952 constant yuan)					
1949	46.6	32.6	14.0	10.3	3.7
1952	82.7	48.4	34.3	22.1	12.2
(Calculated in terms of 1970 constant yuan)					
1978	569.0	145.9	423.1	180.6	242.5
1979	617.5	158.4	459.1	198.0	261.1

[Article by Xu Jingan [1776 2529 1344]]

Reform of the Planned Management System

The planned management system came into being gradually in the course of the First Five-Year Plan. This system was characterized by stress on a high degree of centralization and unified leadership of the national economy. Under it, plans concerning the output of major agricultural and industrial products, the size of capital construction investment and most of the projects, allocation of the major means of production, income and expenditures by central and local financial authorities, number of new workers and total wage expenditures, purchase price and allocation of major consumer goods, prices for major industrial and agricultural products, etc., were all decided by the state and passed on to the local authorities and enterprises in the form of directives. Following the development of the national economy, this system became more and more detrimental to the development of enthusiasm on the part of the workers of the various localities, and thus hindered the development of productive forces.

In 1958, the planning system underwent some major reform according to the principle of "unified planning and level-by-level management," granting greater economic management authority to the provinces, municipalities and autonomous regions. Under this reform, once the fulfillment of state-assigned tasks was assured, the local authorities had the power to make overall arrangements for local construction and production, regulate and utilize local supplies, and make use of local funds. At the same time, the various provinces, municipalities and autonomous regions were responsible for bringing about a comprehensive balance in the plans of central and local enterprises within their jurisdictions. Subsequently, more reforms on the planned management system were carried out in 1961, 1964 and 1970. However, post-1958 reforms dealt primarily with the division of power between central and local authorities, without making any important change in the relationship between the state and enterprises. The state still exercised centralized power and controlled enterprises in a stifling manner. Enterprises lacked the necessary autonomy. The state determined what and how much each enterprise would produce, supply it with materials for production according to an overall plan, purchase all its products through state-operated supply units and commercial units, collect

almost all its profits, approve its rebuilding and expansion, and allocate its investment funds. Furthermore, in carrying out planned management, the state seldom adopted economic measures or took advantage of economic organizations to bring the market and the law of value into full play. Obviously, without radically changing this planned management system which relied mainly on administrative organizations and measures for control, and without changing the financial system of complete control over all income and expenditures of enterprises, or the system of monopoly purchase and sales of commodities, it was impossible for the national economy to develop continuously at a sustained high speed.

After the downfall of the "gang of four," the CCP Central Committee and the State Council placed the overall reform of the economic management system on their agenda. They proposed changes in the guiding principles of the economic management system, namely, a combination of planned regulation and coordinating the system of market regulation, with the former playing the dominant role and the latter being given full play. Accordingly, the State Economic Commission, the Ministry of Finance, and the various provinces, municipalities and autonomous regions selected a number of enterprises beginning in 1979, carry out expanded autonomy on a trial basis. At the same time to, some changes were made in certain aspects of the planned management system. For instance, as long as an enterprise could assure the fulfillment of the state plan and its goods supply contracts, it could engage in the production of products of popular demand with its remaining fuel, power and raw materials according to the needs for production, construction and the needs of the market, and if it had surplus productive capacity it was permitted to engage in cooperation with other enterprises and in processing products supplied by customers. As for goods circulation, in addition to the method in which goods were allocated by the state, an enterprise was permitted to purchase needed supplies through contracts or through the exchange of supplies with other enterprises. After fulfilling state-assigned plans and goods supply contracts, if an enterprise had surplus products or new products produced on trial basis, it was permitted to market them through its own sales department or through other commercial or supply units. In the field of distribution, an enterprise could retain a certain percentage of its profits according to the ratio set by the state and use it for developing production, improving collective welfare, and issuing bonuses to the workers and personnel. These measures were the initial steps toward the reform of the planned management system. They would be improved step by step in the course of experimentation, so that the planned management system would be more and more in conformation with the objective laws of economics.

[Article by Chen Shengchang [7115 0524 2490]]

The Financial and Economic Commission of the State Council Sponsored Large-scale Economic Problem Study Activities

In late June 1979, the Financial and Economic Commission of the State Council convened a meeting of the responsible members of financial and economic departments and economic research institutions of the central government to arrange for carrying out the largest economic study and research campaign since the founding of the New China. This campaign aimed at directing the comrades who were engaged in practical and theoretical work to join hands in carrying out an overall and detailed study of the economic situation in China and submit their views based on systematically organized data for the reference of related authorities in making decisions

on important issues, to pave the way for doing a good job in readjusting the national economy and carrying out a total reform of the economic system. After the meeting, the participants organized themselves into four groups: the economic system reform study group, the economic structure study group, the foreign technology adoption group, and the economic theory and method study group. Each group had a number of investigation and study units. The various industrial communications, financial, trade, agricultural, forestry and water conservancy departments and the various commissions of the State Council also established economic study teams headed by their responsible members to investigate and study existing problems in their own units.

The economic system reform study group aimed at formulating an economic system reform plan which was suitable for China and whose methods were thoroughgoing and could be applied step by step. In 1979, that group held many symposiums in which the participants drafted their "preliminary views on a general concept for economic system reform." In late 1979, members of the group visited Shanghai, Beijing, Tianjin, Sichuan, Liaoning and many other places to solicit views on this general concept and carry out investigations and study. In the course of formulating the general concept, the members also studied the orientation of the economic system reform, its initial steps, its main contents, and certain theoretical problems, such as the limitation to the extent of autonomy to be granted enterprises, the authority and responsibility problem arising from the practice of autonomy, the reliance on planned vs market regulation, and the relationship between administrative and economic measures in carrying out economic management.

The economic structure study group started to make preparations in August 1979 for carrying out a large-scale economic study. It convened 16 meetings of various sizes to hear reports by each of the departments and commissions on their economic structures; the changes, present conditions and the advantages and shortcomings of these structures; and the necessary conditions and methods for reforming unsound economic structures. In addition, the group also sponsored more than 30 symposiums to discuss existing problems in the economic structure in China, the factors contributing to unsound economic structures, and the ideas to reform them. Through this course of study, the group realized that in studying the overall economic structure in China, greater attention should be paid to the relationships between agriculture, the light industry and heavy industry, and between accumulation and consumption, with particular attention to the work of analyzing industrial structures. In each province and municipality, attention should be paid to the ways and means to fully develop local potential in the national economic structure. On the basis of these preparations, the economic structure study group carried out economic investigations in Jiangsu, Shanghai, Sichuan, Heilongjiang, Liaoning, Guangdong and Shanxi, and came forward with 26 investigation reports. After that, the group embarked on the work of analyzing and summing up the history, the present conditions and the future of the Chinese economic structure. In 1980, members of the group will participate in the investigation and research work for formulating a long-term plan for the development of the Chinese national economy under the sponsorship of the State Planning Commission.

The foreign technology adoption study group first held meetings with members of industrial, communications, national defense, capital construction, agricultural, forestry, financial, and trade departments and the State Planning Commission and the State Scientific and Technological Commission to study their adoption of

foreign technology. It also asked the foreign trade authorities to brief its members on Chinese export trade and the problems and prevailing conditions concerning the import of foreign technology. The study group drafted a questionnaire, covering problems concerning transnational corporations, foreign investments, joint ventures, the adoption of foreign technology, and the expansion of exports. It has written a number of study reports.

The economic theory and method study group was divided into two groups: the theory study group and the method study group. In 1979, they sponsored a series of seven forums on foreign economics. The theory study group also convened a series of symposiums with instructors of institutions of higher learning, economic research workers and economic department officials to study a number of important theoretical problems which had come up in their researches. In addition, it also sponsored 10 symposiums in 1979 on economic theoretical problems concerning urban collective ownership. In early January 1980, it convened at Shenyang the first national urban collective ownership economic theoretical symposium, and a rural collective ownership economic theoretical problem symposium was convened by it in October 1979. Beginning in November 1979, the theory study group started a biweekly symposium to discuss state ownership economic theoretical problems, which continued until the spring of 1980. The method study group sponsored a planning methodology symposium, and formed a statistical methodology team, an accounting methodology team and a technical economic methodology team to study problems in these fields.

[Article by Wang Yongyin [3769 3057 6892]]

State-operated Economy

The state-operated economy in China is a socialist economy under ownership of the whole people, occupying a leading position in the national economy of China. In 1949, the production value of state-operated industries accounted for 26.3 percent of the gross value of industrial output in China. The state-operated economy accounted for 97 percent of the output of steel in China, 92 percent of pig iron, 68 percent of raw coal, 58 percent of electric power, and 49 percent of cotton yarn. By 1950, the state-operated economy accounted for 6.9 percent of the total socialist commodity retail value. At the same time, the state opened a number of large-scale state farms in Xinjiang, Heilongjiang, Hainan Island and Zhanjiang Peninsula. The establishment of the state-operated economy was an important factor enabling the national economy of the New China to recover and take a turn for the better quickly. It constituted the material foundation for the successful completion of the socialist reform of agriculture, handicraft industry and capitalist industry and commerce. In the past 30 years, thanks to the gradual transformation of private industry and commerce to enterprises of public ownership and also thanks to the planned rebuilding and expansion of old enterprises and the erection of many new enterprises by the state, the state-operated economy has shown great development. In 1978, the fixed assets of state-operated enterprises were 17.6 times greater than in 1952. In 1979, the number of personnel and workers of units under the ownership of the whole people totaled 76.93 million, an increase of 8.6 times over that of 1949. The proportion of state-operated economy enterprises in the entire national economy continued to grow. By 1979, the output value of state-operated industry accounted for 81 percent of the gross value of industrial output in China, and the state-operated commerce retail value accounted for 82.7 percent of the total socialist commodity retail value in China. The financial income

provided by state-operated economic enterprises increased from 33.4 percent of the total income of the state in 1950 to 86.1 percent in 1979.

Over a long period of time, due to the fact that the state controlled all the income and expenditures of enterprises and purchased and marketed all their products, and exercised too much, too detailed, and too rigid control over them, the enterprises had no authority to improve their production management, and there was no incentive for their personnel to improve economic results. To change this, the state decided in 1979 to adopt positive steps to reform the management system of state-operated enterprises. Essentially, the reform was to let enterprises enjoy greater autonomy in their production, marketing, financial affairs and labor management within the framework of the state plan, and allow them to retain a fixed percentage of their profits and adopt the bonus system, thereby linking the success or failure of the operations of the enterprises to the incomes of the enterprises and their personnel and workers. This reform was carried out among a number of the enterprises on trial basis with remarkable results in 1979.

[Article by Liang Xiufeng [4731 4423 1496] and Li Jianli [2621 1696 4539]]

Agricultural Collective Economy

The agricultural collective economy was generally formed and developed through the following stages: from mutual-aid teams to elementary agricultural producers' cooperatives to advanced agricultural producers' cooperatives and then to the people's communes. By the end of 1956, in the surging agricultural cooperative campaign, the agricultural economy in China had completed its transition from an individual economy to a collective economy, and by the end of 1958, the people's communalization was completed. In 1979, there were a little over 52,000 rural people's communes in China, embracing more than 170 million households composed of more than 800 million people, including more than 300 million laborers.

The agricultural collective economy in China developed through a course of gradual growth and improvement, and it occupies a very important position in the entire national agricultural economy. Large-scale capital construction was carried out in China after the completion of the transformation to agricultural cooperatives and communalization. The irrigated acreage in China increased from the 400-odd million mu in 1957 to 700 million mu in 1979. More and more farm machines were used. By 1979, the people's commune collective economy had almost 600,000 large and medium-sized tractors, more than 5 million motor-driven irrigation units, and more than 60,000 trucks. Some of the more advanced people's commune in the suburbs of large and medium-sized cities had basically achieved mechanized farming. Thanks to improvements in production conditions and in management, the people's commune collective economy made great strides, and with the development of agriculture, they could contribute more and more to the socialist construction of the state. In 1979, over 90 percent of the grain, cotton, oilseeds and other principal agricultural products purchased by the state were provided by the people's commune collective economy. Following the consolidation and development of the collective economy, members of the people's communes gradually improved their standards of living. In 1979, each commune member averaged 83.4 yuan in income from the collective to which he belonged.

The rural people's commune in China is a socialist economic organization under the collective ownership of the laboring masses engaging in agricultural, forestry,

animal husbandry, subsidiary and fishery production, and combining agriculture with industry and commerce in its operations. The basic task of a rural people's commune is to follow the line, principles and policies of the party and government to continually consolidate and develop the socialist collective economy, centering on rural production and construction, and gradually improve and raise the material and cultural livelihood of the commune members on the basis of the development of production. In the meantime, the people's commune should supply more grain, industrial raw materials and other agricultural and subsidiary products in support of the socialist economic construction of the state.

The policy of agricultural production by the people's commune is to achieve overall development, taking food grain as the key link; develop production according to local conditions, have an appropriate degree of centralization, pay equal attention to the development of agricultural, forestry, animal husbandry, subsidiary and fishery production with emphasis on different areas of production in different regions. In food-grain producing areas, the main efforts should be devoted to grain production, with suitable arrangements for the production of economic crops as well as forestry, animal husbandry, subsidiary and fishery production. In forest areas, pastoral areas and fishing areas, the main efforts should be on forestry, animal husbandry and fishery production, respectively. Economic crop areas should engage mainly in the cultivation of economic crops. Suburban areas should devote their main efforts to the production of vegetables, fruits, livestock, poultry and aquatic products. While making great efforts to develop agricultural production, the people's commune collective economy should also develop, according to local resources and social needs, processing industry for agricultural and subsidiary products as well as the mining, construction, farm-machine, and transportation industries to advance the interests of agricultural production, the people's livelihood, large industries and export trade.

The people's commune collective economy practices the socialist principle of distribution, "from each according to his ability, and to each according to his work." As long as the development of the collective economy is not adversely affected, it is permissible for commune members to farm their small private plots and engage in household subsidiary production. The people's commune practices the three-level administrative system, i.e. the means of production are owned at the commune level, the production brigade level and the production team level, with the production team as the basic accounting unit. Under the premises that they uphold the socialist orientation and are guided by the state plan, the collective economic units of a people's commune have the authority to carry out their own operations, cultivate crops according to local and seasonal conditions, adopt measures for increasing production, determine their own management methods, distribute their own products and cash income, and reject the unwise directives of any leading organ or leading individual. All major issues involving a collective economic unit should be determined by its membership in general meetings in commune congresses.

[Article by Zhuang Qidong [5445 0796 2639]]

Urban Collective Ownership Economy

The urban collective ownership economy is an integral part of the Chinese socialist economy. It occupies an important position in the entire national economy, and is playing a more and more important role. In 1979, the total number of workers of

the urban collective ownership economy accounted for 22.8 percent of the total number of workers in China, its number of industrial enterprises accounted for 28.1 percent of the total number of industrial enterprises in China, and its output value was 13.9 percent of the gross industrial output value in China. It accumulated some 10 billion yuan for the state, and its business volume accounted for a great percentage in the total retail sales volume and the total foreign trade volume in China. At present, the urban collective ownership economy deals mostly with industry, but also with construction, agriculture, forestry, animal husbandry, subsidiary production, fishery, communications, transportation, commerce, restaurants, service industry, culture, education, and public health. Its enterprises and business units are now distributed in all branches of the national economy.

The urban collective ownership economy has developed in China in the following four stages, giving rise to four basic types of economy.

In mid-1950s, in the course of the socialist reform of the handicraft industry, handicraft producer mutual-aid teams and cooperatives were established. By now, most of them have been developed into enterprises or cooperative plants under ownership of the whole people, becoming the mainstay of the second light industry in China.

In the late 1950s, the urban people started to establish neighborhood factories and production teams with funds raised by themselves. By the end of 1979, the total number of industrial enterprises under urban neighborhood collective ownership amounted to 36,412, with a total value of production of 7.87 billion yuan.

In the late 1960s, government organizations, educational institutions, PLA units, and industrial plants started to establish household factories operated by the dependents of their members. By the end of 1979, there were 6,766 such household factories, with a gross output value of 1.3 billion yuan.

In 1979, the educated young people and other urban people started to establish urban producer service cooperatives and other types of neighborhood enterprises. By the end of 1979, the number of personnel and workers of the enterprises under urban collective ownership totaled 22.735 million, the number of such enterprises totaled 99,679, with a gross output value of 63.72 billion yuan. Compared to that of 1978, the number of personnel and workers of enterprises under urban collective ownership showed an increase of 11.0 percent, and the gross output value of these enterprises showed an increase of 5.8 percent.

1979 was characterized by the coordination of the development of the urban collective ownership economy in with the work of finding jobs for the unemployed young people in urban areas. In 1979, the enterprises and business units under urban collective ownership nationwide employed 6,308,000 or 75 percent, of the unemployed young people (of whom 2,090,000 were temporary employees) in urban areas.

In 1979, the number of commercial units, restaurants and service units and their personnel and workers showed tremendous increases. This greatly improved the living conditions of the urban people and changed the irrational structure of the urban economy in China. By the end of 1979, the number of personnel and workers of retail shops, restaurants and service units under urban collective ownership in China totaled 2,594,000, a 22.8 percent increase over 1978.

In 1979, the urban collective ownership economy played an important role in advancing the interests of foreign trade. The foreign exchange earned from the export of products of the second light industry produced mainly by the industrial enterprises under urban collective ownership totaled US\$2.35 billion, a 40.7 per cent increase over 1978.

At present, the CCP Central Committee is embarking on formulating policy provisions governing urban collective ownership industries to facilitate greater and faster development of the urban collective ownership economy in the 1980's.

[Article by Liang Xiufeng [4731 4423 1496] and Li Jianli [2621 1696 4539]]

Rural Commune Household Subsidiary Production

Rural commune household subsidiary production is a type of small-scale production engaged in by rural people's commune members after fulfilling their collective labor assignments. This type of production is done by such members during their spare time and during the slack season in agricultural production, tapping the labor potential of their households, taking full advantage of their individual skills, and using the means of production belonging to the collective or themselves. This kind of production is subordinate to the collective economy and complementary to the socialist economy. It also has some of the characteristics of an individual economy and is an important aspect of the economic activities of the commune households.

The party and government has encouraged and supported the household subsidiary production by commune members, according to their long-term economic policy. At the Third Plenum of the 11th CCP Central Committee, it was approved in principle the "Rural People's Commune Work Regulations (Trial Draft)" which provides that, "The household subsidiary production of people's commune members is a necessary supplement to the socialist economy. As long as the development of the collective economy is not adversely affected, the commune members have the right to engage in household subsidiary production without unreasonable interference from any unit or individual." The commune member household subsidiary production is mainly done in the following ways: (1) Cultivate the private plots assigned by the collective (The total acreage of private plots generally accounts for from 5 to 7 percent of the cultivated acreage of the production team concerned.) In pastoral and mountainous areas, some private animals are allowed. (2) Raise such livestock or poultry as pigs, sheep, rabbits, chickens, ducks, and geese. Where practical, commune households may also raise milk cows or beef cattle. (3) Engage in such subsidiary production as matting, embroidery, wild herb collection, fishery, hunting, sericulture and bee-keeping. (4) Raise fruit trees and bamboo around homes.

With agricultural production in China still not at a high level, the commune household subsidiary production can play an important role toward developing the rural economy and increasing the income of commune members. It is beneficial to the development of agricultural production, accounting for one-fifth of the total value of agricultural production in China. It is beneficial to increasing the living standards of the commune members, accounting for one-fourth of the net income of the commune members. It is beneficial to the socialist economic construction of the state, accounting for 90 percent of the pigs, poultry, eggs and other animal

by-products purchased by the state. It is beneficial to the rural economy, providing most of the commodities on sale at rural marketplaces and fairs. It is also beneficial to the livelihood of the commune members, enabling the commune members to become self-supporting in livelihood. From this it can be seen that the active development of commune household subsidiary production in the meantime with the development of the collective economy will benefit the state, the collectives and the commune members alike. For some time to come, commune household subsidiary production will most assuredly continue to develop along with the development of the collective economy, although some changes may occur with regard to the makeup of commune household subsidiary production and its place in the rural economy.

[Article by Liu Hong [0491 3163]]

Shenzhen and Zhuhai Special Export Zones

Shenzhen and Zhuhai municipalities are adjacent to Hong Kong and Macao, giving them many advantages in producing exportable products, processing products supplied by customers, and engaging in assembling items. The Chinese government decided to establish Shenzhen and Zhuhai as two special export zones on a trial basis, hoping to develop these two municipalities, beginning in 1979, into advanced agricultural-industrial export commodity producing bases in 3 to 5 years, and into attractive sight-seeing spots for tourists from Hong Kong and Macao. The special export zones are controlled under the premise of upholding Chinese sovereignty, enforcing Chinese laws and decrees, practicing Chinese foreign exchange and customs control, so that a number of special policies and flexible measures can be applied. In these special zones, it is permissible for overseas Chinese, Hong Kong and Macao merchants, and foreign industrialists and merchants to make investments and establish plants. It is also permissible for them to establish joint ventures to operate enterprises or tourist facilities. Foreign investments are under the protection of Chinese law. The profits of foreign investments may be remitted to foreign countries according to established rules and regulations, after all taxes are paid. A system of preferential tariffs is applied to the imported goods and exported commodities for and from the special zones. During the period 1979 to 1981, the taxes and profits obtained in the special zones will not be turned over to the state, but used to repay loans and to develop the various undertakings there. To do a good job in establishing Shenzhen and Zhuhai special zones, Guangdong authorities are doing the following: (1) formulating specific management rules and regulations governing the special export zones and (2) formulating the overall construction plans for the two municipalities, including the establishment of bases for exporting fresh and live products, and the construction of processing enterprises for export, hotels, restaurants, department stores, municipal highway facilities, and electric power stations. At present, some of the construction projects such as the Shekou industrial area construction project at Shenzhen have already been started.

Finance

[Article by Li Hai [2621 3189] and Wang Chengyao [3769 6134 1031]]

The 1978 National Final Accounting and 1979 National Budget of China

The 1978 national final accounting of China showed that in 1978 the annual financial income was 112.111 billion yuan, and annual financial expenditure 111.093 billion yuan, with a favorable balance of 1.018 billion yuan, thereby achieving the goal of striking a balance, with a small surplus. Compared to that of 1977, the financial income showed an increase of 28.2 percent, and the financial expenditures, 31.7 percent. Thanks to the efforts made in 1977 and 1978, the financial situation in China has changed from a state of stagnation and decline during the period when the "gang of four" was riding high, to a state of substantial increase in income; and from a state of difficulty and deterioration to a state of continual growth in fiscal resources, basically meeting the needs for the development of construction. This was a general reflection of the rapid recovery of our national finance and economy.

The substantial increase in financial income in 1978 was achieved as a result of the quick recovery and development of agricultural and industrial production, and the fact that relentless efforts were made to consolidate the enterprises and bring about profits instead of losses in their business operations. Of the total income, that from industrial and commercial taxes amounted to 45.1 billion yuan, an increase of 12.6 percent over that of 1977, and that from state-operated industrial enterprises 44.0 billion yuan, an increase of 35 percent. Deficits in industrial, communications, commercial, and agricultural enterprises were reduced by 2.6 billion yuan in 1977, and by another 3.25 billion yuan in 1978.

1978 Major Expenditures

<u>Item</u>	<u>Expenditures (billion yuan)</u>	<u>Increase over that of 1977</u>
Capital construction allocations	45.192	50.2%
Capital for development of potential and reform of enterprises, floating capital, geological prospecting expenditures, and industrial, communications, and commercial expenditures	16.778	22.6%
Expenditures for people's communes and agricultural expenditures	7.695	51.8%
Cultural, educational, public health, and scientific research expenditures	11.266	24.9%
National defense and war preparedness expenditures	16.784	12.6%
Administrative and management expenditures	4.908	13.3%

The increase in financial expenditures promoted the development of production, construction and other undertakings, and the improvement of the living conditions of the urban and rural people. Throughout the country, some 40 percent of the personnel and workers enjoyed increases in their wage grades, and an additional 20 percent enjoyed increases in pay to different degrees. In addition, a large number of personnel and workers had bonuses. By the end of 1978, as a result of wage readjustments, the personnel and workers in China enjoyed a total increase in pay of 2.75 billion yuan. The peasants enjoyed a total increase in income, from the distribution of income by their collectives, of 13.7 percent.

The 1979 national budget was adopted at the Second Session of the Fifth National People's Congress held on 1 July 1979. Total income and total expenditures were both 112.0 billion yuan, striking a perfect balance.

The total budgetary income for 1979 was at the same level as that in the national final accounting for 1978. This was because the 1979 income had already had deducted from it all the factors which would adversely affect it, such as the increase in the purchasing prices of agricultural and subsidiary products, the readjustment of the wages of some workers, and the reduction and exemption of some agricultural taxes. Also deducted was the capital needed to expand employment and implement the enterprise reserve fund system on a trial basis. All these factors amounted to a reduction in income of 16.6 billion yuan. If calculated on the basis of 1978 specifications, the annual income of 1979 should be 128.6 billion yuan, a 14.7 percent increase over 1978.

1979 Major Expenditures

<u>Items</u>	<u>Expenditures (billion yuan)</u>
Capital construction allocations	39.00
Expenditures for supporting people's communes and other agricultural undertakings	7.05
Capital for developing potential and reforming enterprises, and for trial production of new products	5.60
Additional allocations of floating capital for enterprises and bank credit funds	4.90
Cultural, educational, public health and scientific research expenditures	12.08
National defense and war preparedness expenditures	20.23
Foreign aid expenditures	1.00
National reserve funds	1.60

Financial income and expenditures for 1979 were arranged according to the policy, tasks and demands of readjusting the national economy, primarily:

1. Readjust the ratio between accumulation and consumption, and shorten the capital construction front. The proportion of allocations for capital construction in the budget was reduced from 40.7 percent in 1978 to 34.8 percent in 1979. At the same time, on the basis of developing production, the wages of some personnel and workers would be readjusted, the scope of employment expanded, the purchasing prices for agricultural and subsidiary products increased and the living standards of the people improved.

2. Readjust the proportionate relationships among agriculture, light industry and heavy industry, and strengthen the support for agriculture. In the field of capital construction investment, the ratio of investment in agriculture was increased from 10.7 percent in 1978 to 14 percent. This investment, plus the other items such as expenditures for supporting the rural people's communes, funds for agricultural undertakings, expenditures on rural areas disbursed from the floating funds of enterprises and from social relief funds, agricultural loans from banks, and the reduction in state income caused by the increases in the purchase prices of agricultural and subsidiary products and by the reduction and exemption of rural taxes, came to something over 24 billion yuan which was invested by the state in the development of agriculture in 1979. This high figure was unparalleled since the founding of the New China.

3. Concentrate industrial investments on the textile and light industries, the fuel and power industry, the building materials industry, and the communications and transportation industry. In 1979, the ratio of investment in the textile and light industries increased from 5.4 percent in 1978 to 5.8 percent. In addition, some capital and foreign exchange was allocated as loans for the adoption of new technical measures in support of the development of the textile and light industry. Furthermore, ample investments in the fuel and power industry and the communications and transportation industry were assured.

[Article by Li Cheng [7812 1004]]

The Reform of the Financial System

For improving the readjustment of the national economy, a trial reform of the financial system was carried out in 1979. On 13 July 1979, the State Council promulgated five documents on the reform of the management system over state-operated industrial enterprises. In these documents, the following concerned the reform of the financial systems between the state and state-operated industrial enterprises:

1. Enterprises may now retain a certain percentage of their profits. This is a change from the practice of the enterprises getting their operational funds from the state on the basis of the total wages of their personnel and workers, and is a system directly associating the degree of success in operations and the development of production with the material well being of the personnel and workers. Under this system, the enterprises are permitted to retain a percentage of their profits based on their trades and their actual conditions. The enterprises may

use the profits retained by them as funds for the development of production, for the improvement of the collective welfare of their personnel and workers, and for issuing bonuses.

2. The depreciation rate of fixed assets has been gradually increased and the utilization of funds set aside for such depreciation has been liberalized. It is permitted to gradually increase the rate of depreciation to a rational proportion on the basis of profit increases. A larger portion of the funds set aside for depreciation is controlled by the enterprises themselves, and a smaller portion by the supervisory organizations concerned. Unused depreciation funds should be deposited in banks under a special account. The enterprises may use their bank deposits from depreciation funds and from their retained profits as collateral to get loans from banks to meet the needs for tapping potential and carrying out renovations or reform when necessary.

3. A system of compensation for the use of fixed assets has been adopted. Enterprises must pay a fixed-assets tax to the state according to the fixed assets in their use. These fixed assets may be sold or rented by the enterprises, but the proceeds obtained therefrom must be used for purchasing other necessary fixed assets.

4. A credit system for meeting all the needs for floating funds has been adopted. Enterprises get loans from banks to meet all their needs for floating funds. With regard to fixed funds, they should be authorized by the financial authorities in conjunction with the supervisory organizations concerned, and be obtained as loans from banks at low interest from allocations made by state finance. With regard to the above-quota funds needed by enterprises for seasonal use, they should be met with loans from banks at medium interest. Bank loans to enterprises for enabling them to overstock capital should be extended at high interest.

The various provinces, municipalities and autonomous regions and certain departments of the central government may select a small number of industrial and communications enterprises to put into practice the above measures on a trial basis, before applying them actively and steadily on a larger scale when sufficient experience is gained. In the case of the localities and departments which have already put into new systems of their own on a trial basis, they should all reorient their systems according to what is stipulated in the five documents issued by the State Council.

In 1979, the State Council also issued "Provisional Regulations Governing Capital Construction Loans," stipulating that capital construction funds should be met with loans from construction banks rather than from allocations from state finance. This will encourage the loan-receiving units to arrange their construction projects more carefully and carry them out more cost consciously to speed up their construction programs.

With regard to state farms, the state adopted the system of total financial responsibility to strengthen economic accounting, improve management, and give full play to economic organizations and measures.

In 1979, the state studied and made arrangements for the reform of the financial system between central and local authorities. In most areas in China, the system

of "balancing expenditures against incomes, and sharing the total" was continued. To encourage the local authorities to overfulfill their tasks, it was stipulated that with regard to the overfulfilled portion, the percentage to be shared by the local authorities concerned would be raised to 50 percent if their regular share was 30 percent, and be raised by an additional 10 percent if their regular share was 50 percent or more. In Jiangsu Province, the system of "balancing expenditures against incomes and sharing the total at a fixed ratio to be maintained for 3 years" was continued on a trial basis. In minority autonomous areas, the existing financial system for minority autonomous areas is still in effect.

[Article by Ding Yi [0002 0044]]

Commune Finance System in Trial Practice

The commune finance system is an integral part of the local financial system of the state. It embodies the distribution relationship of state finance within the framework of the people's commune, and takes part in the distribution and redistribution of the commune collective economy. The establishment of the commune finance system is a kind of reform for improving the rural basic-level financial management system.

According to the prevailing financial system, the communes in most localities are not charged with the responsibility of handling the financial income of the state nor of managing the various expenditures. They are responsible only for receiving and reporting their own administrative expenditures, exercising no financial power themselves. Following the rapid development of agricultural, forestry, animal husbandry, subsidiary and fishery production and that of the enterprises and business units of the people's communes, the state has increased its financial income and expenditures from year to year in dealing with the commune collective economy. At present, of county-level income and expenditures, 50 percent of the budgeted income and from 50 to 70 percent of the expenditures, including all administrative, cultural, educational and public health expenditures and an overwhelming portion of the capital expended in support of agriculture are transacted at the commune level. In localities where the commune finance system has been established, the local authorities must care not only for the budgetary income and expenditures of the state within the framework of communes, but also for the financial work of communes and commune-operated enterprises and undertakings. Generally speaking, these local authorities have adopted the system of "placing the commune finance under a unified leadership, combining vertical control with lateral control, and combined management of income and expenditures." In this way, the various expenditures which used to be allocated from county-level supervisory departments which exercised full control are now placed under the joint control of the county and commune authorities. The commune-level financial cadres and tax collectors who used to handle only the collection of taxes are now handling both the taxes and the profits, and both the income and expenditures. In this way a commune is able to make overall arrangements for all its budgeted income and expenditures and make the best use of all its funds, including the funds it has raised on its own, bank loans, and funds allocated by the state in support of agriculture.

The trial establishment of the commune finance system has gone through a course of developing from individual points to whole areas. The commune finance system was first established at Luohan Commune of Huangpi County of Hubei Province in 1970,

then at Qingshiling Commune of Gai County of Liaoning Province in 1972, and then at Mazhao Commune of Zhouzhi County of Shaanxi Province in 1973. In December 1977, the Ministry of Finance convened at Huangpi County of Hubei Province a 10-Province Commune Financial Work Report Meeting to sum up and exchange experiences, and discuss and study the tasks, systems and structures of the commune finance arrangement. By 1979, the commune finance system was established on a trial basis in 19 provinces and autonomous regions, of which Hubei, Liaoning, Shaanxi, Hunan, Jiangxi and Jilin had the commune finance system established province-wide.

[Article by Wang Chengyao [3769 6134 1031]]

1979 Tax Revenue

China's tax revenue in 1979 was quite good. Although the state reduced to a further extent its rural taxes and reduced and exempted some other taxes in substantial amounts in 1979, the actual income from taxes still overfulfilled the state plan. With the exception of some individual taxes, the income from all taxes increased to varying degrees over that of 1978.

Tax revenue in 1979 accounted for one-half of the total budgeted state income. Of the total tax revenue, industrial and commercial taxes accounted for 78.5 percent, industrial and commercial income taxes 8.3 percent, customs duty 5.5 percent, agricultural (animal husbandry) taxes 5.4 percent, and from salt tax 1.3 percent. Various other industrial and commercial taxes, such as slaughter taxes, license taxes, real estate taxes, livestock trade taxes, and marketplace taxes amounted to an aggregate 0.5 percent.

Almost all the taxes in 1979 were paid via the socialist economy. Commercial, industrial, and other taxes paid by state-run enterprises accounted for 76 percent of all commercial, industrial, and other tax revenue, and of this, commercial and industrial taxes accounted for 84 percent of all commercial and industrial tax revenue. Commercial, industrial, and other taxes paid by the collective economy accounted for 23.4 percent of all commercial, industrial, and other tax revenue, and of this, the commercial and industrial taxes accounted for 15.7 percent of all commercial and industrial tax revenue.

[Article by Wang Chengyao [3769 6134 1031]]

Taxation System Reform

In the 30 years since the founding of the New China, the taxation system has undergone four major reforms. The first reform occurred in 1950 when the tax administration was unified under a new taxation system. At that time, there were fourteen taxes under the national unified taxation system. The state adopted a multiple taxation system where "many taxes were levied many times." As a result, industrial and commercial enterprises had to pay taxes at various production and marketing stages, and some of these taxes were levied repeatedly. The second reform was carried out in 1953, according to the principle of "simplifying the taxation system while guaranteeing the tax revenues." Under this system, while the total amount of taxes remained basically the same, many taxes were combined and the tax levying measures were simplified. At the third reform carried out in 1958, the industrial

and commercial taxes were further reformed. With little or no change in the tax burden as a whole, more taxes were combined, and the taxation rates and levying methods were simplified. In this reform, the industrial and commercial combined tax, the surtaxes, the urban realty taxes, the vehicle and vessel license taxes, and slaughter taxes were all combined into one single tax--the industrial and commercial tax. Under this system, state-operated enterprises were required to pay only one tax--the industrial and commercial tax (or salt tax)--and collective enterprises were required to pay only the industrial and commercial tax and the industrial and commercial income tax.

At the 1979 National Financial Conference and the National Taxation Conference, it was held that this overly simplified taxation system and the unified levying method were incompatible with production operations, cost control, economic responsibility and cost-effectiveness of the enterprises, nor with the complex economic conditions, making it difficult to bring the role of taxation as an economic lever into full play, and adversely affecting the development of foreign trade and the economic reform in China. For this reason, it was necessary to carry out a major reform of the taxation system. This reform was based on the principle of "developing the economy and assuring supplies," following objective economic laws, broadening the taxation avenue, and relying on taxation to regulate the incomes of enterprises. This would enable taxation to act as a lever in regulating the economy. In setting up a taxation system, it was necessary not only to study the existing taxes from an overall viewpoint, readjust them and make new laws accordingly, but also to revive some old taxes. In addition, some new taxes were adopted according to actual needs, so as to have taxes designed for different purposes which could complement one another while also playing their unique roles.

Tax reform is a task involving a wide field and is strongly policy oriented. It can only be carried out in order of relative importance and within our subjective capabilities, in coordination with the reform of the entire economic and financial system, by stages and in groups. The following is an important tax reform being carried out on a trial basis: On 13 July 1979, the State Council issued a decree to levy a fixed-assets tax on state-operated industrial and communications enterprises, requiring compensation from these enterprises for their fixed assets. This aimed at requiring the enterprises to shoulder necessary economic responsibilities and promote the usefulness of their fixed assets. This tax is levied on the basis of the original value of the fixed assets concerned, amounting to from 0.2 to 0.5 percent each month, according to different trades. In certain cases, this tax might be reduced, exempted, or doubled, as the situation calls for. Before the formal promulgation by the state of the fixed-assets tax law for state-operated enterprises, this tax is to be levied provisionally as a fixed-assets utilization tax among state-operated enterprises which have been granted greater autonomy on a trial basis. Wider application of this tax is to be carried out after sufficient experience is gained.

[Article by Wang Chengyao [3769 6134 1031]]

Tax Reductions and Exemptions to Promote the Development of the Collective Economy

In the past 2 years, the state has adopted a series of measures to reduce and exempt taxes to promote the development of the collective economy. One of the important measures was adopted in 1978 when the State Council approved and promulgated the "Report on the Question of Reducing Rural Taxes" by the Ministry of Finance.

Beginning in 1979, taxes on the rural collective economy were further reduced. The following were the main points:

1. With regard to industrial and commercial taxes, in the case of new commune or brigade enterprises which would have difficulty paying taxes during the early stages of their operations, the exemption of their industrial and commercial taxes would be extended from the 1 to 2 years as provided by the old regulations to from 2 to 3 years. This did not apply to such high-tax goods as tobacco, liquor, and cotton yarn. The minimum tax level was raised from the original 600 yuan to 3,000 yuan, with no tax levied on income under this and 20 percent tax on income above that limit. In minority areas where a four-tiered, progressive industrial and commercial tax was levied on a trial basis, the minimum tax level was also raised to 3,000 yuan. For enterprises operated by communes and production brigades and teams in frontier counties and minority national autonomous countries and banner, the period of tax exemption was extended to 5 years, beginning 1979. Old revolutionary bases (such as Northern Shaanxi) still suffering from economic difficulty and in which commune and brigade enterprises needed exemptions from industrial and commercial income taxes could report their cases to the State Council for approval.

2. With regard to agricultural taxes, for all production teams in low-yield areas where the average per capita grain ration was below the minimum level, agricultural taxes were to be exempted. With regard to the minimum agricultural income for taxation, each province, municipality and autonomous region should adopt its own standard on the basis of giving due consideration to the interests of the state, the collectives and the individuals, and according to the grain ration standards set by the state and other related rules and regulations, subject to the approval of the State Council. Reductions in or exemptions from taxes as required by minimum tax levels, after approval by the State Council, should be implemented level by level in those units needing such exemptions. No unit may be excluded. Otherwise, these localities would be taken as violating financial and economic discipline.

The implementation of the new rules and regulations governing the reduction and exemption of taxes will benefit the rural areas in China by a total of more than one billion yuan. This would be a great help to the work of promoting the development of enterprises operated by communes and production brigades and teams, consolidating the rural collective economy, speeding up the modernization of agriculture, promoting agricultural development and improving the living standards of the peasants.

In addition, the state also adopted some new regulations governing the reduction and exemption of taxes in the urban collective economy, taking into consideration the interests of the state, the collectives and the individuals. For instance, to help the employment of educated urban youths, all new collective enterprises will be exempted from income tax for a year from the first month of their productive operations. Enterprises still in difficulty after one year will be given further consideration. (In rural areas, all the farms and teams which were set up for the sole purpose of finding employment for the educated youths will be exempted from industrial and commercial taxes and industrial and commercial income taxes for the period from 1979 to 1985, whether or not they were newly established.) With regard to cooperative stores, surtaxes were abolished beginning in 1979. To advance the welfare of the personnel and workers of collective enterprises, it was stipulated that the handicraft, communications and transportation enterprises were

allowed to set aside all their retirement funds for their personnel and workers before their income taxes were levied, instead of allowing them to set aside only a portion of their retirement funds before income taxes were levied. With regard to the retirement funds, funeral and burial funds, pensions for qualified personnel and subsidies for personnel and workers in difficulty, the cooperative stores were allowed, beginning in 1979, to set aside such funds from their income before their income taxes were levied, instead of taking them from their public welfare funds. Furthermore, the cooperative stores were allowed to set aside 7.5 percent of their total monthly wages to meet medical and welfare expenses for their members. All these measures resulted in income tax reductions. In addition, other tax reductions and exemptions were authorized to encourage collective economic units to make fuller use of their resources, treat their various wastes, and turn wastes into useful products.

[Article by Wang Chengyao [3769 6134 1031]]

The National Taxation Work Conference

The 1979 National Taxation Work Conference was held in Chengdu, Sichuan Province, in May 1979. Its mission was to carry out the spirit of the Third Plenum of the 11th CCP Central Committee through studying, given the shift in the party's work focus, what corresponding tactical shifts should be carried out in tax collection work in the new historical period, and how to comply with objective economic laws and give full play to the role of taxation in realizing socialism's modernization. The conference had a far-reaching and thorough discussion of the role of taxation as an economic lever in the new period. It was held that during the new period of national construction, taxation would play an important role as an economic lever in the economic life of the nation, helping to support the various economic policies, regulate production and consumption, and promote the planned and proportionate high-speed development of the national economy. It has an important role in encouraging enterprises to strengthen their economic accounting and improve economic results and management levels. It can help to carry out the principle of equality and mutual benefit in foreign trade and safeguard national sovereignty and economic interests. It can help to systematize the financial income of the state and supply funds for speeding up the realization of the four modernizations. It was realized that there were contradictions between the prevailing taxation system and the economic situation, and it was necessary in the course of readjusting, restructuring, consolidating and improving the national economy to carry out careful study and formulate overall plans to reform the taxation system, in order to establish a new taxation system meeting the demands of the new period. It was stressed at the conference that the taxation policy should strictly be carried out, stronger supervision should be exercised in the collection of taxes, all laws should be enforced and all law-breaking activities should be investigated to resolutely safeguard the financial income of the state and close all loopholes. We should also fulfill the general goal of "developing the economy and assuring supplies," promote production in every way possible, develop new financial resources and increase the financial income of the state.

Banking

The Four Changes and Eight Reforms in Banking

In February 1979, the People's Bank of China convened a conference in Beijing of the directors of all branches of the bank to study how to shift the focus of banking work to help bring about socialism's modernization of the state according to the guidelines of the Third Plenum of the 11th CCP Central Committee. It was stressed at the conference to observe objective economic laws and carry out the "four changes" in banking work as follows: (1) Change the practice of running things by purely administrative means to using economic methods to manage the economy and the banks, (2) change the practice of paying insufficient attention to capital management to paying more attention to the proper utilization of capital, on the basis of increasing capital resources, (3) change the practice of making loans simply according to production plans and commodity circulation plans to making loans according to the production and marketing contracts of enterprises in keeping with state plans, and (4) change the practice of requiring all banks in China to operate in the same style to requiring the banks at all levels to be managed as enterprises and strictly adopt the economic accounting system. The conference discussed and decided on the following important measures:

1. Appropriately raise the rate of interest in savings deposits, open more categories of savings accounts, and make great efforts to promote the increase of savings deposits in urban and rural areas to raise more funds for the four modernizations.
2. Bank loans are to be extended on a selective basis according to the degrees of success achieved by the enterprises in fulfilling state plans, carrying out economic contracts, conducting their operations, and maintaining their credit.
3. Restore and establish specialized banks and companies. Restore the Agricultural Bank of China as a bank directly subordinate to the State Council under the control of the People's Bank of China, to strengthen agricultural credit work and support the development of agriculture. To strengthen foreign exchange work, it is suggested to reassign the Bank of China as an organ directly subordinate to the State Council under the control of the People's Bank of China. To strengthen printing work, it was decided to set up a general printing company. Branches of the insurance company are gradually being established at all localities of the People's Bank of China in the various provinces, municipalities and autonomous regions and at important ports, according to the expanding needs of banking operations. Domestic insurance is being restored step by step.
4. To assist in solving problems overlooked by state plans, the banks may, with certain limitations and under certain conditions, extend short term and intermediate term loans to enterprises under the ownership of the whole people to engage in the construction of small hydroelectric and thermal power plants or to purchase equipment to enable them to do a good job in developing their potential and carrying out renovations and reforms.
5. Change the practice of extending and recalling all loans only by the main office of the People's Bank of China, and grant greater authority and responsibility to subordinate banks in raising and using credit funds. In the planned control of

loans, the system of "overall planning, level-to-level control, associating deposits with loans, and controlling balances" is being adopted on a trial basis, i.e., for the main office of the People's Bank of China to set the amount of balance between credit income and expenditure to be kept by its branches in the various provinces, municipalities and autonomous regions according to the credit plan authorized by the state. Under conditions where their banking deposit plans are fulfilled and the aforementioned balance is kept within the set limit, the various branches of the People's Bank of China may extend more credit if they have more deposits or if they can speed up the turnover of credit funds.

6. The banks should carry out their operations as enterprises and carry out strict economic accounting. All banks subordinate to the provincial, municipal and autonomous regional branches of the People's Bank of China and all specialized banks and companies should apply for the authorization of their funds according to established standards and rules and regulations, and manage their operations and treat themselves as enterprises. Fund transactions between banks must not be done without computing due interest.

7. Restore and establish banking research institutes to strengthen banking research work. The various provincial, municipal and autonomous regional branches of the People's Bank of China should pay due attention to the establishment of banking research institutes manned by the necessary research personnel.

8. Change the banking cadre management system and intensify the training of cadres. Change the banking cadre management system to the system of placing cadre management under the dual leadership of the bank and local authorities, with greater emphasis on the bank leadership. A major effort should be made to do a good job in operating banking institutions and secondary vocational banking schools, and strengthen the education and training of cadres at their posts, so that a great number of knowledgeable economics and banking experts can quickly be trained in a planned manner.

With the approval of the State Council, the above reform measures were put into practice, or practiced on a trial basis in 1979.

[Article by Xiao Ruqin [5135 3067 0530]]

Reinstating Agricultural Bank of China

The CCP Central Committee and the State Council decided to reinstate the China Agricultural Bank to strengthen management of agricultural funds to develop rural banking service, to develop agricultural production rapidly and to realize the four modernizations.

On 23 February 1979, the State Council issued the "Notice on Reinstatement of the China Agricultural Bank." In this notice, it was stated that the main tasks of the China Agricultural Bank are to assume overall control of the funds for agriculture, handle rural credit, assume leadership over rural credit cooperatives, and develop rural banking services. The following are the businesses it handles:

(1) Study, allocate, distribute and supervise the use of the funds assigned by the Ministry of Finance for agriculture, the deposits made by commercial departments for purchases, the agricultural loans extended by banks and credit cooperatives, and the funds for agriculture raised by operational departments themselves.

(2) Agricultural banks and credit cooperatives handle the deposits and loans for rural people's communes, production brigades and teams, enterprises operated by communes and production brigades and teams, state-operated agricultural enterprises, agricultural-industrial-commercial combined enterprises, and supply and marketing cooperatives. (3) Credit cooperatives are collective banking units as well as the basic-level units of agricultural banks. The credit cooperatives handle the deposits and loans for the basic accounting units of the rural people's communes, the enterprises operated by communes and production brigades and teams, and individual commune members. Agricultural banks handle the deposits, loans, urban-rural accounting and cash management for state organizations, associations, schools, enterprises and business units in rural areas. (4) Give assistance to basic accounting units of rural people's communes in their accounting work, and to communes and production brigades and teams in handling their funds in a way to their best advantage.

The Agricultural Bank of China has branches at different levels. The main office at the ministry level is directly subordinate to the State Council, and is under the control of the People's Bank of China. It has provincial, municipal and autonomous regional branches, prefectural main sub-branches, county sub-branches, and business offices in administrative units below the county level. The agricultural banks assume overall leadership over the credit cooperatives established in rural people's communes and the credit service offices established in production brigades. The Agricultural Bank of China has more than 27,000 branches and sub-branches throughout the country, employing more than 230,000 personnel and workers. There are more than 59,000 credit cooperatives employing more than 260,000 full-time cadres, and more than 350,000 credit service offices employing more than 360,000 part-time personnel. These units form a comprehensive rural banking network.

In September 1979, the Agricultural Bank of China convened its first national conference of branch directors since its reinstatement to discuss the following issues: Agricultural credit funds should be increased progressively to help in the development of agricultural modernization; Agricultural credit funds should be used mainly to assist communes and production brigades to develop commodity production, diversified economy and enterprises, to continually improve their financial positions; Agricultural credit funds should be placed under tighter management; the credit fund management system of communes and production brigades should be reformed; and efforts should be made to bring into full play the role of agricultural loans to promote and supervise the development of agricultural production. At the conference, it was requested that the agricultural banks at all levels should, in disbursing agricultural loans, adhere to the principles of "taking food grain as the key link, achieving overall development, taking local factors into consideration, and concentrating the use of funds appropriately," and "simultaneously developing agricultural, forestry, animal husbandry, subsidiary and fishery production," and give great support to communes and production brigades to quickly develop commodity production. Poor communes and production brigades should be assisted in adopting means to increase their production and income, to open more avenues for increasing financial resources, and to improve their status through the development of production. But credit cannot be used as relief funds. Efforts should be made to overcome the erroneous view that abundance reflects capitalism and poverty socialism, and that it is wrong to extend loans to rich production brigades and correct to extend loans to poor production brigades. In summing up the historical experiences in the management and utilization of agricultural credit in the 30 years since the founding of the nation, the conference

stressed the importance of upholding the fundamental principle of "recalling loans upon maturity" in agricultural credit management on the part of agricultural banks. In particular, cases where the borrowers encountered difficulty in repaying their loans, the repayment date may be postponed, but the repayment itself must not be exempted, because it is in violation of socialist economic principles and the established credit rules and regulations.

[Article by Xiao Ruqin [5135 3067 0530]]

Reform of the Credit Management for Rural Communes and Production Brigades

In the past, the banks' management methods for credit funds to communes and production brigades were basically controlled by the main office of the banks. Under that practice, the village deposits received by all local banks were handed over to the main office, and the agricultural credit from the main office was issued through banks at the different levels in a controlled manner according to set standards. Although this practice enabled the bank to maintain good balance in agricultural credit, it was not conducive to the development of enthusiasm on the part of the central and local authorities concerned.

To fully develop local enthusiasm to raise funds and manage them properly at each level, combining authority and responsibility and coordinating deposits, loans, and collections to better support the overall promotion of agricultural production and progressively realize agricultural modernization, the Agricultural Bank of China decided that beginning 1980 a credit management system in the communes and brigades of "linking deposits to loans to assume a balance" be implemented under a state unified system of planning and policy. This management system calls for the main office of the Agricultural Bank of China to set a balance between total deposits and total loans allowed for each provincial, municipal and autonomous regional branch corresponding to its year-end balance. Those with deposits exceeding loans would be required to forward a set amount of funds to the main office, and those with loans exceeding deposits would be supplied with a set amount of funds to meet their needs for the loans extended. After these standards are set, the various branches will be allowed to make use of the surplus funds they obtain from absorbing more deposits or recalling more loans than needed for meeting the set standards. The main office of the Agricultural Bank of China will allow each branch to keep a given amount of cash to be used as a contingency fund. This new credit management system for communes and production brigades has been put into trial practice among the provincial, municipal and autonomous regional branches of the bank beginning 1980.

[Article by Wu Shenqi [0702 3947 3217]]

Banks Extend Credit Selectively To Reward Excellence

The People's Bank of China extends loans to industrial and commercial enterprises selectively, assisting those with superior performance. For a bank to regulate the economy with economic methods in carrying out its credit work, this is a necessary measure. It marks a change from the practice in the past where credit was granted without questioning the quality of operations and the marketing conditions of the enterprises concerned. This measure will enable credit to act as an economic lever to change the situation where the enterprises cared little about the economic yields of their operations, to the advantage of the readjustment and development of the national economy.

This practice of discriminatory assistance is done in the following manner:

1) Discrimination in trades. In the readjustment of the national economy, more favorable loan considerations should be given to the light and textile industries and the energy industry. Some restrictions should be imposed in granting loans to the machine-building and other industries. This will curtail the production of products in abundant supply to promote the production of products in short supply and so divert financial and material resources of the state to the production of products more urgently needed by the state and the people; 2) Discrimination in enterprises according to the quality of operations. Banks at the various localities will classify enterprises through careful study on the basis of local conditions into three categories, good, average and poor, according to the following criteria: their fulfillment of state plans, their fulfillment of contracts, their operational situation and their credit. Favorable considerations will be given to the enterprises of the first category, so that loans are extended to them on a priority basis. Enterprises of the second category should be assisted in developing their potential to qualify for loans in appropriate amounts. With regard to the enterprises of the third category, more restrictions should be imposed on their loans to promote their readjustment and improvement; and, 3) Discrimination in enterprises according to their products. Favorable consideration should be given to enterprises whose products are of good quality and in demand on the market. Restrictions should be imposed on enterprises whose products are of poor quality and unpopular on the market.

Based on these principles of selective assistance, in 1979, the People's Bank of China started to grant medium- and short-term loans for the procurement of equipment to enable the enterprises to develop their potential and carry out renovation and reform. This type of loan aims mainly at giving support to the textile and light industrial enterprises and enterprises engaged in the production of products in short supply, particularly those whose products are of good quality and whose supply of raw materials and energy are assured, and those noted for quick and abundant returns on their investments and their quick accumulation of funds and foreign exchange. Although this type of loan is not substantial and has been started relatively recently, it has yielded marked results in assisting enterprises in carrying out technical renovations and developing their potential, and has therefore won the appreciation and welcome of the enterprises and the departments concerned.

[Article by Hou Zhunhua [0186 0193 5478]]

State Funds Give Way to Bank Loans for Capital Construction Investments

In August 1979, the State Council approved the "Report on the Trial Method of Using Loans to Carry Out Capital Construction" and the "Trial Regulations Governing Loans for Capital Construction" submitted by the State Planning Commission, the State Capital Construction Commission and the Ministry of Finance, and decided to use loans for capital construction on a trial basis.

It was a major reform in the capital construction management system to shift from the allocation of funds by the state to the extension of loans by banks for capital construction. It had long been standard practice for the state to allocate non-compensatory funds to the construction units for capital construction. Following the shift from state funds to bank loans, the capital construction investments were made in the form of repayable loans. This was more in keeping with the

principle of regulating the economy according to economic laws. Under the guidance of state plans, greater roles were played by economic organizations and economic means.

Capital construction loans must be repaid by the borrowers themselves. A borrower must be an industrial, communications, transportation, farm, animal husbandry, aquatic production, commercial, or tourist unit with independent accounts and capable of meeting the repayments. With regard to the administrative units, non-profit units and projects required by state plans, their expenditures are still to be met with state allocations.

To qualify for loans, a unit engaged in capital construction must have approved plans and preliminary designs which are included in intermediate- and long-term construction plans and in the annual construction plan. A unit engaged in production must be screened by a bank to see if the products are in popular demand on the market, the workers have mastered the technology concerned, and the conditions for production and construction have been met satisfactorily.

To assure the continuation of capital construction loans on a trial basis, and to encourage borrowing units to go into production on or ahead of schedule, the loan regulations stipulate that, for projects with loan contracts already signed and which have begun construction, the planning and management departments must arrange the capital construction plans in subsequent years in keeping with the loan contracts and in keeping with the degree of progress of the construction, thereby ensuring its continuation. Supply authorities must assure the supply of equipment, materials and goods. After an enterprise is completed and goes into production, during the period of loan repayment, the enterprise may keep all fixed assets depreciation funds and profits to repay the loan. Enterprises which have been completed ahead of schedule and which have their loans repaid ahead of schedule, may retain all the funds earmarked for repaying loans to develop production or improve the welfare of the personnel and workers during the period originally set for loan repayment. In the case of enterprises which are unable to make the loan repayment according to schedule, the loans should be repaid from their funds set aside for renovation and reconstruction. They cannot meet loan payments at the expense of production or profits.

Upon receipt of the notice from the State Council, Shanghai, Jilin, Henan and Jiangsu started to implement this system on a trial basis among some construction units in 1979. By March 1980, some 150 projects were shifted from state allocations to bank loans. These projects were distributed in Shanghai, Jilin, Henan, Hubei, Fujian, Zhejiang, Ningxia, Hebei and Liaoning. Some of them were under the direct jurisdiction of the Ministry of Water Conservancy and Power and the Ministry of Textile Industry.

The experiences gained in these projects showed that the practice of shifting from state allocations to bank loans has readjusted the economic relationship between the state and the enterprises in the utilization of investments, established an organic relationship between economic responsibility, economic power and economic benefits, brought into full play the work enthusiasm of the enterprises and their personnel and workers, encouraged borrowers to make detailed calculations of the economic yield, select the construction projects, carry out the construction most economically, and speed up the progress of construction to bring in their economic yields as early as possible.

[Article by Chen Quangeng [7115 0356 1649]]

State Foreign Exchange Control Bureau Established

The State Foreign Exchange Control Bureau (abbreviated FEB) was established on 13 March 1979. This bureau and its branches are organs of the People's Republic of China in charge of the control of foreign exchange.

The following are the duties of the FEB: To formulate detailed rules and regulations governing the control of foreign exchange, publish the rates of exchange between the RMB and foreign currencies, assume overall control of foreign exchange funds, formulate the overall plan for foreign exchange incomes and expenditures and keep them largely in balance, and examine and supervise foreign exchange incomes and expenditures whether or not they are incurred in foreign trade.

The FEB is directly subordinate to the State Council, under the control of the People's Bank of China. Its main office is in Beijing, with branches in a majority of the provinces, municipalities and autonomous regions. These branches are under the leadership of the main office in their business operations. In localities where no branches of the FEB are available, the People's Bank of China is authorized to handle foreign exchange affairs.

[Article by Chen Quangeng [7115 0356 1649]]

The Bank of China Expands Its Operations

The Bank of China specializes in foreign exchange and the handling of all kinds of foreign exchange businesses for the People's Republic of China.

Following the continuous development of China's foreign trade and international activities, the Bank of China has rapidly expanded its operations and increased its international accounting tasks. To meet the requirements of the new period and to shift the focus of work to socialist construction, the State Council on 13 March 1979 made the Bank of China an organ directly subordinate to the State Council, under the control of the People's Bank of China, and authorized the Bank and its branches, sub-branches, and local offices to increase their personnel.

The following are the tasks within the scope of operations of the Bank of China: To manage the foreign exchange buying and selling of all currencies; to manage the international accounting of foreign exchange, whether or not it involves foreign trade; to make foreign exchange loans in foreign trade in a planned manner; to handle deposits in foreign currencies and foreign deposits in people's currency, to handle remittances from overseas Chinese in foreign countries to China according to state policy governing such remittances; to handle international remittances, issue and cash foreign exchange certificates and traveler's checks, conduct credit investigation and information tasks; and to handle other tasks included in the operations of an international bank.

The Bank of China in the various localities may be entrusted by Chinese citizens to carry out non-trade transactions abroad, such as the sale, exchange and purchase of foreign stocks. It may receive dividends, transferring back to China foreign deposits and interests, sell their properties in foreign countries, and handle the inheriting of properties in foreign countries.

The main office of the Bank of China is in Beijing. It has 81 branches, sub-branches and offices in port cities and frontier areas, including 34 branches, 35 sub-branches and 12 offices. More will be established in the future. There is one branch in Hong Kong. In foreign countries, it now has a London branch and a Luxemburg branch in Europe, and a Singapore branch and a Tokyo office in Asia. It will establish more branches and offices in major world banking centers in the future. The Bank of China has established business relations with the banks of many foreign countries. By the end of 1979, it had business relations with 2,534 branches of 948 banks of 142 countries and regions in the world.

[Article by Wang Shoumin [3769 1343 3046]]

Overseas Chinese Remittances and Related State Policy

The work of handling remittances from Overseas Chinese constitutes an important part of the policy "making it easy to make remittances from foreign countries to advance the interests of Overseas Chinese." These remittances are one of the main sources of non-trade foreign exchange, playing a positive role in developing production in the native counties of the Overseas Chinese, improving the livelihood of their dependents, bringing about the four modernizations in these counties, and providing foreign exchange funds for the state.

In the past, because of the serious intervention and sabotage of Lin Biao and the "gang of four" against the state policy concerning Overseas Chinese, remittances from the Overseas Chinese were undermined. Lin Biao and the "gang of four" widely spread the fallacies such as "remittances from Overseas Chinese are useless," "remittances from Overseas Chinese are dangerous," "remittances from Overseas Chinese are as corrosive as sulphuric acid," and "socialism can be built without any remittance from Overseas Chinese." They viciously attacked the families receiving remittances from relatives overseas, and even went so far as to withhold and confiscate such remittances. This interrupted the association between Overseas Chinese and their dependents in China. In some cases, the interruption still prevails today.

After the "gang of four" was smashed, the State Council reiterated its policy to safeguard remittances from Overseas Chinese, acknowledging the right of the recipients to hold and use such remittances. Today, the volume of these remittances has rapidly increased. To improve the livelihood of the dependents of the Overseas Chinese, beginning April 1978 the state restored the supply of materials to be purchased with remittances from Overseas Chinese. Many stores were established in the various localities to sell grain, edible oil, non-staple food items and daily necessity manufactured goods to foreign remittance holders on the basis of the foreign remittance coupons they had. The overseas Chinese dependents were allowed to buy 30 yuan's worth of commodities (10 yuan worth of grain, edible oil and non-staple food items and 20 yuan worth of industrial products) upon surrendering a 100-yuan foreign remittance coupon. In addition, the overseas Chinese were encouraged to send money to their dependents to build living quarters, allowing them to buy construction materials or buy houses with the remittances.

[Article by Zhu Yixin [2612 0034 0207]]

RMB Traveler's Checks and Foreign Exchange Cashier's Offices

Traveler's checks--To meet the needs of Overseas Chinese and compatriots from Hong Kong and Macao who returned to China to see their relatives and friends and the needs for the development of tourism in China, beginning 20 January 1978 the Bank of China started to sell RMB traveler's checks in the denominations of 50 and 100 yuan. These checks are honored within the first 6 months of issuance. In case of their being lost or stolen, the buyers may apply for reimbursement according to established rules and regulations. Unused and expired travelers' checks may be cashed in at the issuing banks.

The RMB traveler's checks are obtainable at the Bank of China in Hong Kong and Singapore and at the following banks in Hong Kong and Macao: Jiaotong, Xinhua, Jincheng, Zhejiang Xingye, Guohua, Guangdong, Zhongnan, Yanye, Nanyang Shangye, Baosheng, Huaqiao Shangye, Jiyou, Nantong and their branches. In China, the traveler's checks are obtainable at the business department of the main office of the Bank of China and its branches in Beijing, Shanghai, Tianjin, and Guangzhou.

RMB traveler's checks may be cashed only in China. They may be cashed at the Bank of China, its various branches, and its authorized agents. By March 1980, more than 1,080 branches, sub-branches and authorized agents of the Bank of China were in operation throughout the country to cash RMB traveler's checks. To the delight of foreign visitors, Overseas Chinese, and the compatriots from Hong Kong and Macao, large numbers of stores, hotels, restaurants, airports, train stations, bus stations, and sea and river ports now accept RMB traveler's checks.

Foreign Exchange Cashier's Offices--There are three classes of foreign exchange cashier's offices to cash foreign currencies, foreign currency notes, RMB traveler's checks. Class 1 may cash foreign currencies, foreign currency notes and RMB traveler's checks; class 2 may cash foreign currencies and RMB traveler's checks; and class 3 RMB traveler's checks only.

[Article by Chen Quangeng [7115 0356 1649]]

RMB Foreign Exchange Rates

The foreign exchange rates of the RMB are set by the State Foreign Exchange Control Bureau, published by the Bank of China and reported daily by the XINHUA News Agency in Chinese, English and French.

The foreign exchange rates of the RMB are set according to the principles of independence, equality and mutual benefit, beneficial to the development of the national economy and foreign trade and to the work of upholding the value of the RMB.

With regard to the foreign exchange rates of the RMB, there are the buying prices and selling prices. The buying prices are the prices paid by the bank in buying the foreign currencies, and the selling prices are the prices of the foreign currencies being sold by the bank. The median prices are the prices derived by adding the buying and selling prices concerned and dividing the resultant figure by two.

Since 1973, when the capitalist nations adopted floating exchange rates, the exchange rates of their currencies have fluctuated frequently according to the market supply and demand of their currencies. To avoid the adverse effect of the economic depression of capitalist nations, maintain the stability of RMB, and keep the exchange rates of the RMB on a rational level, it was decided to readjust periodically the exchange rates of the RMB. In 1979, there were published exchange rates between the RMB and 26 foreign currencies. During that year, the exchange rates of the RMB against these foreign currencies have generally risen to different degrees, as shown in the following table:

1 人民币外汇牌价

2 国家外汇管理局

3 单位: 人民币元

4 外币名称	5 外币单位	6 1979 年 年 初			7 1979 年 年 度			8 年度比年初增减%
		9 买价	10 中间价	11 卖价	9 买价	10 中间价	11 卖价	
12 澳大利亚元	100	182.68	183.60	183.14	166.30	167.14	166.72	-8.97
13 奥地利先令	100	11.76	11.82	11.79	12.09	12.15	12.12	+2.80
14 比利时法郎	10,000	546.72	549.46	548.09	532.83	535.51	534.17	-2.54
15 加拿大元	100	133.17	133.83	133.50	127.28	127.92	127.60	-4.20
16 丹麦克朗	100	30.88	31.04	30.96	27.87	28.01	27.94	-9.75
17 西德马克	100	85.96	86.40	86.18	86.15	86.59	86.37	+0.22
18 芬兰马克	100	41.68	41.88	41.78	40.06	40.26	40.16	-3.88
19 法国法郎	100	37.49	37.67	37.58	36.85	37.03	36.94	-1.70
20 意大利里拉	100	59.49	59.79	59.64	54.71	54.99	54.85	-8.03
21 几内亚西里	100	8.37	8.41	8.39	8.00	8.04	8.02	-4.41
22 伊朗里亚尔	10,000	231.74	232.90	232.32	210.44	211.50	210.97	-9.19
23 意大利里拉	10,000	18.90	19.00	18.95	18.40	18.50	18.45	-2.64
24 日元	100,000	811.14	815.20	813.17	620.69	623.81	622.25	-23.48
25 马尼拉比索	10,000	36.97	37.15	37.06	36.85	37.03	36.94	-0.32
26 马来西亚元	100	70.92	71.28	71.10	69.42	69.76	69.59	-2.12
27 荷兰盾	100	79.70	80.10	79.90	78.12	78.52	78.32	-1.98
28 挪威克朗	100	31.63	31.79	31.71	30.05	30.21	30.13	-4.98
29 巴基斯坦卢比	100	16.53	16.61	16.57	15.20	15.28	15.24	-8.03
30 塞拉利昂利昂	100	151.69	152.45	152.07	143.23	143.95	143.59	-5.58
31 新加坡元	100	72.53	72.89	72.71	69.61	69.95	69.78	-4.03
32 瑞典克朗	100	36.71	36.89	36.80	36.00	36.18	36.09	-1.93
33 瑞士法郎	100	97.67	98.15	97.91	93.49	93.95	93.72	-4.28
34 坦桑尼亚先令	100	23.21	23.33	23.27	18.15	18.25	18.20	-21.79
35 美元	100	318.47	320.07	319.27	333.43	335.11	334.27	+4.70
36 英镑	100	157.32	158.10	157.71	149.25	149.99	149.62	-5.13
37 港币	100	33.58	33.74	33.66	30.41	30.57	30.49	-9.42

10. selling value
11. Median value
12. Australian Dollar
13. Austrian Schilling
14. Belgian Franc
15. Canadian Dollar
16. Danish Krone
17. West German Deutsche Mark
18. Finnish Markka
19. French Franc
20. Ghanaian Cedi
21. Guinean Syli
22. Iranian Rial
23. Italian Lira
24. Japanese Yen
25. Mali Franc
26. Malaysian Ringgit
27. Dutch Guilder
28. Norwegian Krone
29. Pakistan Rupee
30. Sierra Leone Leone
31. Singapore Dollar
32. Swedish Krona
33. Swiss Franc
34. Tanzanian Shilling
35. British Pound Sterling
36. U.S. Dollar
37. Hong Kong Dollar

Legend:

1. Foreign exchange rates for RMB
2. State Foreign Exchange Control Bureau
3. Unit: RMB
4. Foreign currencies
5. Foreign currency units
6. 1 January 1979
7. 31 December 1979
8. Percentage change in exchange rate
9. buying value

[Article by Ji Heng [7382 5683]]

Sino-U.S. Agreement on Settlement of Asset Claims

In 1950, following the outbreak of the war of aggression against Korea by the United States, the United States imposed embargo against China and, on 17 December 1950, froze all the assets in the United States belonging to Chinese government organizations, banks, enterprises, business units, associations and individuals. On 28 December 1950, China adopted the same measures against U.S. properties in China and froze U.S. banking deposits in China.

In the course of normalizing relations between the two countries, both sides started to submit demands since 1972 on its assets held by the other side. To develop bilateral economic and trade relations on the basis of equality and mutual benefit and in the spirit of the Joint Communiqué on the Establishment of Diplomatic Relations Between China and the United States, the two sides conducted negotiations on this matter. On 11 May 1979, the Chinese and U.S. governments signed an agreement on the settlement of asset claims. The agreement stipulated that the Chinese Government would pay by installments a total of US\$80.5 million to the U.S. Government to meet its asset claims as a total and final settlement, and the United States would unfreeze our assets, so that the Chinese asset owners could reclaim their assets individually from the holders in the United States. In carrying out this agreement, for the protection of the legitimate rights and interests of Chinese units and individuals, the State Council on 9 September 1979 issued a decree authorizing the Bank of China to act on behalf of the Chinese state organizations, state-operated enterprises and business units, associations, schools, former privately operated and jointly operated industrial and commercial enterprises which had been converted to state operation, and Chinese citizens to reclaim and repossess assets frozen in the United States. The decree also stipulated that no unit or individual was allowed to repossess, sell, or transfer their frozen assets in the United States without the consent of the Bank of China. On the same day, the Bank of China issued a notice calling on all owners of assets in the United States to register their claims for the reclamation and repossession of such assets. The reclaimed and repossessed assets were handled according to established rules and regulations concerned.

[Article by Liu Yansun [0491 3601 5549]]

Sharp Increase in Savings Deposits

In the 30 years since the founding of New China, the funds accumulated in the form of savings deposits have served as a reliable, stable and ever-increasing supply of funds for production and construction for the state. In this 30 years, the amount of savings deposits has increased steadily at a rate much faster than the rate of increase in funds lent out as credit. During the period of the First Five-Year Plan, funds to be lent out as credit increased at an average rate of 14.9 percent, but the amount of savings deposits increased at 26.5 percent per annum. During the three years of economic readjustment, while the funds to be used as credit showed no increase, the amount of savings deposits increased at a rate of 18.5 percent per annum. After the "gang of four" was smashed, the funds for credit increased at a rate of 9.6 percent, and the amount of savings deposits at 18.4 percent per annum. Following the development of production and the increase in income of the masses, the amount of savings deposits as a proportion of the amount of wages also increased. This ratio was 3.26 percent during the period of the First

Five-Year Plan, 3.1 percent during the three years of economic adjustment, 4.0 percent during the period 1977 to 1978, and 8.2 percent in 1979. The continual increase in savings deposits will provide more and more funds for the development of the national economy.

In 1979, the savings deposits in urban and rural areas in China increased at a rate unparalleled in history. Urban savings increased by 4.7 billion yuan, rural commune members savings by 2.2 billion yuan. By the end of 1979, the amount of urban savings deposits in China totaled 20.26 billion yuan, showing an increase of 30.8 percent over that of 1978. Of this total, 18 percent was in checking accounts, and 82 percent in time-deposit accounts. Thirty percent of the time deposits belonged to the long-term category, ranging from 3 to 5 years. The amount of savings deposits made by rural commune members in 1979 totaled 7.84 billion yuan, showing an increase of 40.8 percent over that of 1978.

In 1979, the amount of urban savings deposits in minority areas showed even faster increase than other areas. Savings in Ningxia increased by 35 percent, in Guangxi by 32.29 percent, and in Nei Monggol by 30.77 percent, surpassing the average increase in urban savings in China as a whole.

In 1979, the number of urban savings banks in China increased by more than 600, to a total of more than 6,000, and the number of their personnel increased by more than 6,000, to a total of more than 50,000. Savings units have also been established under the sponsorship of the ranks in government organizations, enterprises, and mass organizations in cities all over China to handle savings deposits by their personnel.

[Article by Liu Yansun [0491 3601 5549]]

Increased Interest on Time Deposits

On 1 April 1979, the State Council authorized increases in the interests on time deposits. In China, interest is calculated monthly. The interest on one-year, fixed-term, lump-sum deposit and withdrawal savings accounts was increased from 2.7 percent to 3.3 percent per annum. That on lump-sum deposit and withdrawal half-year fixed-term savings was increased to 3.0 percent per annum, on 3-year deposits to 3.75 percent per annum, and on 5-year deposits to 4.2 percent per annum. With regard to savings deposits made by the Overseas Chinese, the interest on one-year lump-sum deposit and withdrawal accounts was increased from 3.3 percent to 3.9 percent per annum, and on 3-year fixed-term savings to 4.2 percent, and that on 5-year deposits 4.5 percent. During the initial period after the founding of New China, because of the inflation inherited from the old China, interest rates had been high. At that time, the monthly interest rate on one-year fixed-term savings deposits was 21 percent. Following the recovery and development of the national economy, the gradual elimination of inflation and the gradual stabilization of commodity prices, major adjustments in interest rates were made on several occasions. In 1971, because of the interference and sabotage of Lin Biao and the "gang of four," the interest rates on savings deposits were lowered to an unreasonable level, making it necessary to raise the rates to a suitable extent in 1979. In April 1980, interest rates on savings deposits were readjusted upward once again in line with actual conditions to bring the role of interest rates as an economic lever into full play.

[Article by Wang Yongming [3769 3057 2494]]

The Development of Chinese People's Insurance

The People's Insurance Company of China was established in October 1949. It is the only state-operated insurance company in China, under the leadership of the People's Bank of China. It has 76 branches and sub-branches in major ports and cities of the various provinces, municipalities and autonomous regions.

The People's Insurance Company of China handles mainly the following overseas insurance businesses: insurance on import-export freight shipping which is related to foreign trade and to economic exchange with foreign countries, and insurance for ocean-going ships, for planes flying international routes, for persons and properties of foreign organizations in China, and for construction projects, as well as international reinsurance. Following the adoption of diversified trading methods by China in its foreign trade, the insurance company also began issuing insurance on the processing of materials supplied by customers, insurance on compensatory trade, warranty insurance, and other new forms of business. In addition, the insurance company has designated more than 300 inspection and claims settlement agents to examine goods and ships in more than 100 countries and regions. On 8 July 1979, the Standing Committee of the National People's Congress promulgated the "Law Governing the Operations of Joint Ventures" stipulating that joint ventures must buy insurance from a Chinese insurance company. This helped in the expansion of business of the People's Insurance Company of China. It has now established direct or indirect insurance business division arrangements with more than 900 insurance and reinsurance companies in 115 countries and regions, joined the Asian-African Insurance and Reinsurance Association and its reinsurance bloc, and become a member of the Asian Reinsurance Corporation.

[Article by Zhao Jinian [6392 3444 1628]]

Gradual Recovery of Domestic Insurance Business

In April 1979, the State Council authorized the People's Bank of China to gradually resume domestic insurance business.

At the time of its establishment in 1949, the People's Insurance Company of China offered domestic insurance for properties, transportation of goods and materials, means of transportation, persons, livestock, and crops. This type of business was discontinued during the period 1958 to 1978. The advantage of insurance was shown in the following, based on the experience of the insurance company in the first 10 years after the founding of New China: First, by paying a small premium, an enterprise or individual could quickly obtain economic compensation in the event of unexpected loss, making it possible for them to recover and develop production, strengthen their economic accounting system, and improve the welfare of the masses. Second, the insurance company could contribute to the prevention of disasters and losses in cooperation with the authorities concerned, thus reducing the incidence of disasters and mishaps and increasing the safety of social wealth. Third, after expenditures for loss compensation and business operations, the premiums received by the insurance company each year were kept as insurance reserve funds of the state, which could be used as bank credit funds in support of socialist construction. In view of these advantages, a national insurance work conference was held in November 1979 to make arrangements for resuming domestic insurance business gradually and steadily in 1980 to advance the interests of the masses and production.

[Article by Wang Yongming [3769 3057 2494]]

China Joins the Asian Reinsurance Corporation

The Asian Reinsurance Corporation is an intergovernmental organization. It is one of the regional cooperation projects undertaken by the U.N. Asian and Pacific Economic and Social Council, the purpose of which is to require that, to the extent possible, the reinsurance business among the developing countries in the Asian and Pacific region be exchanged among the nations of the region, so as to accumulate foreign exchange for insurance in this region. The committee estimated that during 1974, as much as US\$200 million in foreign exchange flowed into the developed countries in the form of reinsurance premiums from just 10 major developing countries in the Asian and Pacific Region. The establishment of the Asian Reinsurance Corporation would curtail the outflow of such premiums from the Asian and Pacific region and raise the technical standards of insurance in that region.

In October 1974, under the sponsorship of the U.N. Trade and Development Conference and the U.N. Asian and Pacific Economic and Social Council, a round-table conference was held by the insurance supervisors and representatives of the insurance circles of the Philippines, Thailand and 16 other states and regions to propose the establishment of an Asian reinsurance corporation. This was followed by a preparatory conference held in January 1976, at which an agreement to establish the Asian Reinsurance Corporation was reached. By 1978, this agreement had been signed by the governments and authorities of Afghanistan, Bangladesh, India, Iran, the Philippines, Sri Lanka and Thailand.

To lend support to the cooperation of the developing countries in Asia and the Pacific Region in the reinsurance business, on 29 March 1979 the State Council of China ratified the "Agreement to Establish the Asian Reinsurance Corporation." That marked the first occasion of China's participation in a U.N. organization for trade cooperation.

An inaugural meeting was held by the Asian Reinsurance Corporation in Bangkok, Thailand on 28-31 May 1979. China assigned Lin Zhenfeng, Deputy General Manager of the People's Insurance Company of China, to attend on its behalf. The agreement to establish the Asian Reinsurance Corporation provides that all developing countries in Asia and the Pacific Region may apply for membership. Each member nation must contribute to the membership fund in the amount of US\$500,000.

By decision of the first board of directors meeting, the Asian Reinsurance Corporation was set up in Bangkok, Thailand. The corporation started its business operations on 1 January 1980.

[Article by Cheng Dianyong [2052 3013 2254]]

The Issuance of Commemorative Gold Coins in Celebration of the 30th Anniversary of the Founding of the People's Republic of China

In celebration of the 30th anniversary of the founding of the People's Republic of China, the State Council authorized the People's Bank of China to issue a set of commemorative gold coins. This is the first time since the founding of the New China that precious commemorative gold coins have been issued for sale abroad. These coins were produced by the China Mint, a subordinate unit of the People's

Bank of China, and marketed by the Bank of China. On 13 September 1979, these coins went on sale simultaneously in China and in Hong Kong to buyers throughout the world. There are a total of 70,000 sets, and each set is composed of four gold coins. All four coins bear the national symbol of the People's Republic of China on their obverse side. Their reverse sides bear the pictures of Tian'anmen Square, the Great Hall of the People, the Monument of the People's Heroes, and the Chairman Mao Memorial Hall, respectively. Each coin, 22K in gold content, is 27 millimeters in diameter, containing 0.5 ounce of pure gold, with a face value of 400 yuan in renminbi [people's currency]. Because of their delicate designs and beautiful appearances, these commemorative coins have received an enthusiastic welcome from coin collectors at home and abroad.

Foreign Trade

[Article by Li Kanghua [2621 1660 5478] and Wang Shouchun [3769 1108 2797]]

The Growth of Foreign Trade in 1979

In 1979, China's foreign trade showed much growth, and its foreign trade volume reached a new record, amounting to 45.46 billion yuan, showing an increase of 28.1 percent over the 35.5 billion yuan of 1978. In particular, the volume of exports totaled 21.17 billion yuan, showing an increase of 26.3 percent over the 16.76 billion yuan of 1978; and the volume of imports totaled 24.29 billion yuan, an increase of 29.6 percent over the 18.74 billion yuan of 1978.

In 1979, China's foreign trade was conducted according to the principles of "attaching first importance to exports, coordinating imports with exports, using exports as a yardstick to set the scope of imports, and striking a balance between imports and exports." As a result of great efforts to increase the supply of products to continually increase exports, the export of agricultural and subsidiary products increased by 5.7 percent, that of the textile and light industrial products by 21.2 percent and that of heavy industrial products by 58.0 percent. Industrial and mining products increased as a percentage of exports by a large margin as compared to 1978. Major export commodities included crude oil, cotton cloth, silk piece goods, clothing, raw silk, cotton textile products, rice, live hogs, frozen prawns, tea, feathers, knitwear, and tungsten ore. To improve the quality, design and variety of the export commodities to standards meeting the demands of the world market and to increase their production, by the end of 1979 China established 16 export commodity production complexes, more than 100 individual export commodity production bases for live hogs, beef cattle, apples and goat hides, and 94 factories, mines and workshops specializing in producing export commodities. To meet the needs of the four modernizations, more advanced technology and equipment were imported in 1979, showing an increase of 190 percent over that of 1978. Compared to that of 1978, the import in 1979 of agriculture-oriented supplies showed an increase of 20.7 percent, textile and light industrial raw materials 15.6 percent, and consumer goods 30 percent. Imports of steel products, non-ferrous metals, pig iron, and iron ore was lower in 1979 than in 1978. Besides advanced technology and equipment, the following were the major commodities imported in 1979: steel products, motor vehicles, ships, mining machinery, machine tools, chemical fertilizer, agricultural chemicals, chemical fibers, worsted, rubber, grain, sugar, oils, fats and watches.

The marked improvement in China's foreign trade in 1979 resulted from the high importance attached by the Party and government to developing foreign trade and strengthening the leadership of foreign trade work. In July 1979, the Standing Committee of the National People's Congress adopted a resolution to establish the People's Republic of China Import and Export Management Commission to strengthen leadership and management of foreign trade. In July, August and September, the Party Central Committee and the State Council further formulated a string of important goals, policies, and measures to reform the foreign trade system and develop foreign trade, thereby bringing the enthusiasm of all quarters into full play. In the meantime, foreign trade departments shed old ideas, took a new look at international trade practices, and vigorously and selectively adopted many flexible trading methods and engaged in cooperative bargaining. This, too, was one of the main contributing factors to the marked success in foreign trade in 1979.

[Article by Li Kanghua [2621 1660 5478] and Wang Shouchun [3769 1108 2797]]

The Development of Foreign Trade Relations in 1979

The year 1979 was an important year in the history of development of foreign trade relations with foreign countries. During that year, China signed trade agreements with the governments of Jordan, Liberia, Tunisia, Algeria, the Philippines, Sweden, Singapore and the United States; signed a protocol with the Thai government on the long-term supply of oil from Shengli Oil Field; concluded a protocol with the government of Zaire on the supply of many commodities; and reached an agreement with Japan on extending the long-term Sino-Japanese Trade Agreement and increasing the amount of money therein provided. In July, the Chinese and U.S. governments formally signed the Sino-U.S. Trade Relationship Agreement, marking entry into a new stage in Sino-U.S. trade relations.

To strengthen economic and trade relations and scientific and technological cooperation with foreign countries, in 1979 China also signed an agreement with the Yugoslav government on mutual exemption of duties against the passengers and goods shipped between the two countries, an ocean shipping agreement with the Thai government, and air transportation agreements were concluded with Britain, Italy, Finland, the Belgian-Luxembourg Economic Union, Denmark, the Federal Republic of Germany, Burma and the United States. The Bank of China signed a development loan agreement with the Japan Export-Import Bank, and with a new governmental Japanese banking group signed a short-term trade loan protocol and an intermediate-term civil loan protocol.

Exhibitions are a good means for promoting the development of China's foreign economic and trade relations. In 1979, eight exhibitions were held by Yugoslavia, Japan, Italy, Switzerland, the German Democratic Republic, and Britain in Beijing, Shanghai, Tianjin and Wuhan. China, in turn, held economic and trade exhibitions in Bangladesh, Thailand, Yugoslavia, Congo, Argentina and Jordan, and participated in international exhibitions in Liberia, Sudan, the German Democratic Republic, Romania, France, Morocco, Yugoslavia, Zaire, Argentina, Italy, Sweden, Greece, India, and New Zealand. On 10 May 1979, China and the United States signed an agreement on holding trade exhibitions in each other's countries. According to this agreement, during the period May to October, 1980, China will hold economic and trade exhibitions in these and other cities in the United States, and the United States will hold an exhibition in Beijing in 1980, followed by other exhibitions in Beijing and other cities in China.

The Chinese Export Commodity Fair is an important place for the Chinese people to conduct friendly trading activities with the peoples of other countries in the world. Since its inauguration in the spring of 1957, the fair has been held twice a year in Guangzhou from 15 April to 15 May and from 15 October to 15 November each year. By the fall of 1979, the trade fair had been held 46 times. In 1979, the spring and autumn fairs were attended by more than 49,700 persons from more than 100 countries and regions, who concluded more than 148,300 trade contracts. Compared to that of 1978, the attendance was more than 11,300 persons greater, and the total value of transactions was 24.1 percent greater.

In developing its trade relations with other countries, China has adopted the strategic view that differentiates between countries of the First, the Second and the Third Worlds. On the principles of equality, mutual benefit and the exchange of goods to meet each other's needs, China has actively developed trade relations with the various countries, based on needs and practicabilities.

By the end of 1979, China had established and developed trade relations with more than 140 states and regions of the Third World, and had signed trade agreements with 66 states. In 1979, the trade volume between China and the states of the Third World totaled US\$6.66 billion, showing an increase of 32.1 percent over that of 1978, and accounting for 22.7 percent of the total volume of foreign trade conducted by China in 1979.

In 1979, China further developed its economic and trade relations with the developed Western industrial countries, and increased its trade volume with them to US\$14.74 billion, showing an increase of 40.4 percent over that of 1978, and accounting for 50.3 percent of the total volume of foreign trade in 1979. Japan and the European Common Market were the major trade partners. In March 1979, China and Japan extended and expanded their long-term trade agreement; i.e., during the period 1978 to 1990, China and Japan will each export to the other goods in the amount of US\$20 to US\$30 billion. In 1979, Sino-Japanese trade volume totaled US\$6.7 billion, showing an increase of 39 percent over the US\$4.82 billion of 1978, and accounting for about 22.9 percent of the total foreign trade volume of China in 1979. In July 1979, China initialed with the Common Market a 5-year agreement on textile products, increasing the quotas on 14 of the most sensitive products (including cotton cloth, cotton yarn and shirts). The Common Market also decided to treat China as a most favored nation [literally: "...also decided to apply the general preference system in its treatment of China..."] beginning in 1980. In 1979, the trade volume between China and the Common Market totaled US\$5.06 billion, showing an increase of 54.3 percent over that of 1978.

China and the United States gradually resumed and developed their trade relations in the spirit of the Shanghai Communique jointly signed by China and the United States in 1972. The signing of the Shanghai Communique marked a major step forward toward the normalization of relations between the two countries, enabling them to resume their trade relations which had been suspended for 22 years and start again their non-governmental trade activities. While in 1973 the exchange of commercial and technical personnel between the two countries amounted only to about 700 person-trips, by 1978 this figure had increased to 4,500. The trade volume between the two countries also increased. In 1978, Chinese imports from the United States amounted to US\$720 million, and exports to the United States, US\$270 million. The year 1979 was an important year in the development of Sino-U.S. trade relations.

On 1 January 1979, China and the United States formally established diplomatic relations. In March, the two sides agreed to establish the Sino-U.S. Joint Economic Commission. On 7 July, the two governments formally signed the Sino-U.S. Trade Relations Agreement, marking entry into a new period in these relations. In 1979, Sino-U.S. trade volume amounted to US\$2.45 billion, showing an increase of 147 percent over that of 1978, and accounting for 8.4 percent of the total foreign trade volume of China in 1979.

In 1979, the trade volume between China and the Soviet Union amounted to about US\$500 million.

[Article by Li Kanghua [2621 1660 5478] and Wang Shouchun [3769 1108 2797]]

Reform of the Foreign Trade system

The current system of management and administration of China's foreign trade was gradually shaped and developed on the basis of the practice of state control over foreign trade. Upon its founding, New China immediately abolished all the prerogatives of imperialism in China, established the state-operated foreign trade companies, adopted the policy of utilizing, restricting and reforming the foreign trade enterprises owned by private capital, imposed state control over foreign trade, reformed the customs system, and established a system of foreign trade management and administration centering on the state-operated foreign trade companies which were under state control. In 1956, following the virtual completion of the socialist reform of the system of ownership, China had actually already achieved state monopoly control over foreign trade. Centralized leadership and unified administration of the whole of China's foreign trade were assumed by the Ministry of Foreign Trade, and all import and export business came under unified management by the state-operated specialized import and export companies subordinate to the Ministry of Foreign Trade. During the period 1956 to 1978, although some changes in this system were introduced continually according to the tasks assigned for different periods, there was little change in the foreign trade system in China in general. The existing foreign trade system gradually took shape under these historical conditions.

Following the entry of Chinese socialist revolution and construction into a new historical period, to speed up the realization of the four modernizations, it was necessary to greatly develop Chinese foreign trade. Under the existing foreign trade system, import and export operations were overly centralized and too rigidly controlled, making it impossible to achieve good coordination between industry and trade, between production and marketing, and causing dislocation in the matter of receiving foreign exchange from exports and using foreign exchange for imports on the part of the various localities, departments and enterprises concerned. There were also conflicts among the foreign trade departments, between the central and local authorities, between the ports and the interior, and between the various ports. These problems were detrimental to arousing the enthusiasm of the various departments, localities and enterprises for developing foreign trade. To do a good job in foreign trade and speed up the realization of the four modernizations, it was necessary to radically reform the prevailing foreign trade system in China.

Taking into consideration the characteristics of foreign trade and the actual foreign trade system prevailing in China, the reform of the foreign trade system should be carried out in the following manner: First and foremost, remove all

restrictions where necessary to mobilize the enthusiasm of all quarters. In the meantime, it is necessary to assure central unity, including unity in policy, in planning and in dealing with foreign states. Under unified leadership, foreign trade should be administered and managed at various levels, with an independent accounting system. On 30 July 1979, it was decided at the 10th session of the Standing Committee of the Fifth National People's Congress to establish the People's Republic of China Import and Export Management Commission and the People's Republic of China Foreign Investment Administration Commission to improve the balancing of imports and exports, the balancing of foreign exchange, the work of importing new technology, and the control of foreign investments. After that, the Party Central Committee and the State Council issued a series of important documents, outlining some major policies and measures governing the reform of the foreign trade system and the development of foreign trade, as follows:

Place export commodities under the control of different levels of authorities separately, and broaden the scope of commodities handled by local authorities. Commodities under the control of central authorities should be exported by the various specialized companies subordinate to the Ministry of Foreign Trade. With the approval of the State Council, some of the commodities may be exported by other departments concerned. Commodities under the control of local authorities may be exported by provincial, municipal and autonomous regional authorities if practicable. All business belonging to local export plans and using local foreign exchange for imports may be handled by the local authorities concerned.

Broaden the authority of local authorities to handle foreign trade. The various provinces, municipalities and autonomous regions may establish specialized trading companies to export local commodities or certain particular commodities and to handle the import business for the localities concerned. These businesses should be handled at the local level and have their independent accounting and be responsible for their own profits and losses. With regard to certain special commodities, where conditions permit, joint industrial and trading companies may be established to handle their production, supply and marketing. With authorization certain ministries of the State Council may set up export commodity supply companies to handle their own commodities and participate in export negotiations and organization of delivery of these commodities. Where practicable, import-export companies handling both industrial production and trade or both agricultural production and trade may be organized under the dual leadership of the ministry responsible and the Foreign Trade Ministry.

Broaden the authority of production enterprises to participate in foreign trade. Where practicable, a production enterprise may participate in foreign trade activities or negotiate with foreign customers for trade to coordinate production with marketing.

Allow enterprises to retain a given percentage of the foreign exchange earned from exports to meet the needs of the localities, enterprises and departments concerned for importing supplies for developing production and expanding their businesses. This will bring into full play the enthusiasm of all quarters concerned. Favorable tax rates may be granted for the supplies which are imported to build up exports, in order to promote the expansion of exports.

Select certain areas of the few coastal provinces and municipalities where conditions permit to be treated as special export zones where more liberal control measures may be adopted on a trial basis. This may initially be carried out on a trial basis at Shenzhen and Zhuhai in Guangdong Province.

Furthermore, reforms may be carried out in the various provinces, municipalities and autonomous regions on the basis of their special characteristics and taking full advantage of their respective favorable conditions. The central authorities have decided to adopt a special policy and flexible measures in Guangdong and Fujian provinces with regard to their economic relations with foreign areas, and place the foreign trade business in Beijing, Tianjin and Shanghai under the dual leadership of the central and local authorities, with emphasis on the local, and with independent accounting, thus broadening the foreign trade authority of these three municipalities.

[Article by Qiu Nianzhu [6726 1628 4376] and Li Xiaoxian [7812 1321 0341]]

New Measures in Foreign Trade

In the past few years, on the basis of equality, mutual benefit, and mutual respect of each other's independence and sovereignty, the Chinese foreign trade companies have adopted more flexible patterns and methods in foreign trade according to the commodities, markets and trading partners concerned, to meet China's needs for expanding foreign trade during the new period, and, by means of foreign trade to draw funds more effectively from foreign countries, import more modern technology and equipment to speed up the socialist modernization program in China. In 1979, these new measures were put into practice on a much broader scale.

With regard to trading patterns, China adopted all the common practices in international trade, such as accepting orders for commodities of specified brands, allowing the buyers to give their own brand names to certain export commodities, allowing the buyers to attach their company names or symbols to the commodities alongside the Chinese brand names; processing the materials supplied by customers in to the products they need according to their suggested patterns, styles and packaging preferences; energetically setting up businesses to assembly products from parts processed abroad, processing or assembling raw materials, supplementary materials, components, primary sub-assemblies and packaging materials supplied in whole or in part by foreign businessmen into finished products to earn labor and processing charges; actively carrying out all forms of compensatory trade--repaying the funds, patented technology and advanced equipment supplied by foreign firms with products directly or indirectly, by installments or in batches; carrying out cooperative international productive operations, such as producing parts, components or complete sets of tools expressly for foreign firms to be used in producing complete sets of machinery, or cooperating with foreign firms in producing certain products, with each side marketing part of the products; and participating in joint ventures in China or abroad with foreign firms, etc.

With regard to the manners of payment, and according to actual conditions, China also mastered and put to use, flexibly, common practices in international trade. These include accepting credit from banks or governments where appropriate, in addition to continuing to use commercial credit in the field of imports; and accepting not only currently-dated letters of credit as a means of payment but also post-dated letters of credit, to provide some leeway for the buyer in order to do

more business in the field of exports. In addition, China has also accepted the escrow practice to a suitable extent in transactions, although in most cases the payments must be made at the time of the completion of the transactions concerned. Also, in exporting complete sets of equipment or machines to nations of the Third World, China sometimes allows amortization in payments.

[Article by Qiu Nianzhu [6726 1628 4376] and Li Xiaoxian [7812 1321 0341]]

The Sino-U.S. Trade Relations Agreement

In May 1979, Juanita Kreps, U.S. Secretary of Commerce, visited China. On 14 May, she initialed the Sino-U.S. Trade Relations Agreement. On 7 July 1979, the "Agreement on Trade Relations between the People's Republic of China and the United States of America" was officially signed in Beijing by the governments of China and the United States.

The agreement provides that, to establish trade relations between the two countries on a non-discriminatory basis, both contracting parties accord the most favored nation status to each other with regard to products exported to or imported from the other country, and adopt all appropriate measures to create the best conditions for strengthening the economic and trade relations and promoting the continued and long-term development of trade between the two countries. To strive for a balance of economic interests between the two parties, the two parties will do their best to promote a mutual expansion of trade. The agreement also provides that the two parties acknowledge the important roles played by government trade organizations in developing the trade and economic relations between the two countries. The two parties agree to encourage and support these organizations in their efforts to promote trade, and according to their respective capacities, will do their best to facilitate such activities. This agreement will remain in effect for three years. Unless either contracting party informs the other of its desire to terminate this agreement at least 30 days before the expiration date, this agreement will be extended by another 3 years. It may continue to be extended in the same manner.

This agreement was approved by the Standing Committee of the National People's Congress of China and by the U.S. Congress. On 1 February 1980, the Chinese Ministry of Foreign Affairs and the U.S. Embassy in China exchanged notes in Beijing, announcing that the agreement formally took effect as of that date.

[Article by Qiu Nianzhu [6726 1628 4376] and Li Xiaoxian [7812 1321 0341]]

Establishment of the International Trust and Investment Company of China

The International Trust and Investment Company of China was formally established in Beijing on 4 October 1979. Its charter, approved by the State Council, states that the company is a state-operated socialist enterprise under the direct leadership of the State Council. The company will, according to the People's Republic of China Joint Venture Law and other general laws, decrees and regulations of the state, engage in guiding, absorbing and utilizing foreign funds, importing advanced technology and equipment, making construction investments in China, and accelerating construction for the socialist modernization of China. The company is capitalized at 200 million yuan in renminbi. Its main office is in Beijing. It has a branch in Hong Kong, and may establish other branches, sub-branches, offices and agents in China and abroad, according to actual needs.

At its first board of directors meeting, the company announced the namelist of members of its board of directors as approved by the State Council. The board of directors is composed of 44 persons. Rong Yiren, Lei Renmin, Wu Zhichao, Chen Shuxin, and Wang Jianshi are members of its standing committee, Rong Yiren is the chairman, and Lei Renmin the vice chairman. Rong Yiren serves as the general manager, with Lei Renmin, Wu Zhichao and Chen Shuxin as deputy general managers. Other members of the board of directors include leaders of the various central and local departments concerned, members of the China Democratic National Construction Association, members of the All-China Federation of Industrial and Commercial Circles, representatives of industrial and commercial circles in the various localities, members of industrial and commercial circles in Hong Kong and Macao, and noted lawyers, economists and patriots, totalling 39 persons.

[Article by Qiu Nianzhu [6726 1628 4376] and Li Xiaoxian [7812 1321 0341]]

Joint Venture Law Promulgated

The Second Session of the Fifth National People's Congress of the People's Republic of China on 1 July 1979 adopted the "Law of the People's Republic of China on Joint Ventures Using Chinese and Foreign Investments." This law has 15 articles, clearly setting forth the rights and interests of the participants in joint ventures.

The law provides the following: With a view to expanding international economic cooperation and technological exchange, China permits foreign companies, enterprises, other economic entities or individuals to incorporate themselves, within the territory of China, into joint ventures with Chinese companies, enterprises or other economic entities on the principle of equality and mutual benefit and subject to authorization by the Chinese government. The Chinese government protects, by the legislation in force, the resources invested by a foreign participant in a joint venture and the profits due him pursuant to the agreements, contracts and articles of association authorized by the Chinese government as well as his other lawful rights and interests. All the activities of a joint venture shall be governed by the laws, decrees and pertinent rules and regulations of China. A joint venture shall apply to the Foreign Investment Control Commission of the People's Republic of China for examination and approval of the agreements and contracts concluded between the parties to the venture formulated by them. After approval, the joint venture shall register with the Industry and Commerce Administration and Management General Bureau of the People's Republic of China and receive an operating license. A joint venture shall take the form of a limited liability company. The foreign participant's share of investment in a joint enterprise shall generally not be less than 25 percent of the venture's registered capitalization. Each party to a joint venture may contribute cash, capital goods, industrial property rights, etc. as its investment in the venture. The technology or equipment contributed by any foreign participant as investment shall be truly advanced and appropriate to China's needs. The investment contributed by a Chinese participant may include the right to the use of a site provided for the joint venture during the period of its operation. A joint venture shall have a board of directors whose chairman is appointed by the Chinese participant and the vice chairman by the foreign participant. The board of directors deals with major questions through consultations before decision, on the principle of equality and mutual benefit. The general manager and assistant general manager shall be chosen from the various parties to the joint venture. The net profit which a foreign participant receives as his share after executing his obligations under the pertinent laws and stipulations of agreements and contracts, the funds he received at the time when the joint venture terminates

or winds up its operations, and his other funds may be remitted abroad through the Bank of China in accordance with the foreign exchange control regulations and in the currency or currencies specified in the contracts concerning the joint venture. The wages, salaries or other legitimate income earned by a foreign worker or staff member of a joint venture, after payment of the personal income tax under the tax laws of the People's Republic of China, may also be remitted abroad through the Bank of China in accordance with the foreign exchange control regulations. The law also has provisions governing the joint ventures' production arrangements, product marketing arrangements, organizations, personnel allocations, limits of management authority, contract durations and settlement of disputes.

[Article by Li Kanghua [2621 1660 5478] and Wang Shouchun [3769 1108 2797]]

Special Policies and Flexible Measures Applicable to Guangdong and Fujian in Their Foreign Economic Activities

The Party and government have decided that, within the framework of the uniform foreign trade goals, policies and plans of the state, Guangdong and Fujian Provinces may make their own arrangements for foreign trade according to their particular conditions to meet the needs of developing their foreign economic activities and speeding up their socialist modernization and construction. Their provincial foreign trade company branches are now under the dual leadership of the provincial authorities and the companies' main national offices. The two provinces may conduct their own import and export business; the products they export and import will not be subject to the limitations currently in effect regarding a division of labor by port and commodity. They may also establish on a trial basis specialized companies subordinate to their provincial governments to handle the production, domestic marketing and export business for certain export products, according to the principle of coordinating production with marketing, industry with trade, and domestic with foreign trade. With regard to commodities whose exportation is regulated by given quotas, overall arrangements should be made by the Ministry of Foreign Trade to grant more liberal quotas to Fujian Province. Each of the two provinces may decide on the prices it will pay for commodities it imports with its own foreign exchange. In foreign trade activities, the Ministry of Foreign Trade must remain in charge of arrangements with different countries (and areas) so as to maintain control over the prices of a few commodities which are imported or exported in large quantities and for which the monopolistic nature of the international market is strong and/or competition is fierce. Guangdong Province is setting up special export zones on a trial basis. Within these zones, it is permissible for Overseas Chinese, Hong Kong, Macao, and foreign firms to invest in the establishment of plants or to participate in joint ventures, tourist facilities, or other undertakings. The principle of administration in the special zones shall be: that China's sovereignty must be upheld, that China's laws and decrees must be enforced, and that China's foreign exchange controls and customs system must be observed on the one hand; but that--in economics--a policy of lifting restrictions must be implemented on the other. Accordingly, foreign investors and plant managers are protected by the laws of China; favorable tax rates are granted to the import of needed supplies and export of commodities from these special zones; foreign investors are allowed to remit their legitimate profits abroad after paying all taxes in accordance with related rules and regulations; and arrangements for people entering and departing from these zones are simplified. The special zones will have customs, commodity examination, quarantine, frontier inspection, banking, postal and telecommunications facilities. In Fujian province,

the Fujian Provincial Investment Enterprise Company is established as a consolidated enterprise with independent accounting, assuming sole responsibility for its own profits and losses. Under the leadership of the Fujian People's Government, it is engaged in such foreign business activities as inviting investments from Overseas Chinese and foreign capital, importing advanced technology and equipment and establishing enterprises, in accordance with the appropriate provisions of the state. The company will handle the export of the products produced by its enterprises, the foreign exchange earned therefrom, and the payment of expenditures according to an overall plan.

[Article by Li Kanghua [2621 1660 5478] and Wang Shouchun [3769 1108 2797]]

Foreign Trade in Beijing, Tianjin and Shanghai Is Under the Dual Leadership of the Foreign Trade Ministry and the Municipal Government Concerned, With Greater Emphasis on the Latter

Beijing, Tianjin and Shanghai are three important industrial bases of China, noted for their textile and light industry, their traditional handicraft products, and their fast-developing electronic, instruments, petroleum, and chemical industries. Their coastal location affords them excellent conditions for developing foreign trade. To study how to bring the advantages of the three cities into full play and how to adopt effective measures to increase exports and earn more foreign exchange, in August 1979 the Central Import-Export Control Commission convened in Beijing a Beijing-Tianjin-Shanghai export business symposium. The symposium made the following suggestions to reform the prevailing foreign trade system and grant greater authority to the three cities in handling their foreign trade, according to the guidelines of the central authorities and taking into consideration the particular conditions of the three cities themselves. These suggestions were approved by the State Council on 14 September 1979 for implementation.

Under the guidance of the unified foreign trade goals, policies and plans of the central authorities, foreign trade business in Beijing, Tianjin and Shanghai is to be under the dual leadership of the Ministry of Foreign Trade and the three city governments concerned, with greater emphasis on the latter. Each city will establish a municipal import-export company which is under the dual leadership of the Ministry of Foreign Trade and the city government concerned, with greater emphasis on the latter. Branches of each municipal import-export company are under the dual leadership of the Import-Export Corporation of the Ministry of Foreign Trade and their respective municipal import-export company, with greater emphasis on the latter. Each of the municipal import-export companies and their branches has its own independent accounting system.

Each city will formulate and readjust its plans for the procurement of commodities for export and the accumulation of foreign exchange from exports according to the needs of the world market and according to the principle of setting production targets in accordance with market conditions. The export of commodities under the control of central authorities is to be determined jointly by the State Planning Commission, the Foreign Trade Ministry and the ministries concerned. The export of commodities under municipal control may be arranged by the city government concerned according to the supply situation. For both centrally-controlled and locally-controlled commodities, each city may on its own increase production and efforts, with the proviso that it be able to meet raw materials needs. The import outside plan of commodities which can facilitate the export of other commodities

may be carried out by city authorities themselves, within previously arranged foreign exchange limits, without reporting each case to higher authorities for approval.

Trade in important goods which are imported and exported in large quantities and intergovernmental trade should still be negotiated and agreed to by the Ministry of Foreign Trade and the national office of the various specialized import and export corporations on the basis of unified discussions with the foreign parties, and be carried out by the city branches of these corporations. The city branches may directly handle the import and export of other commodities, without being restricted by the specialized import and export quotas assigned to the various sea ports.

The Composition of China's Import and Export Commodities

I. Composition of Export Commodities

Year	Export Volume (in US\$ million)			Export Volume (in %)		
	Agricultural & Subsidiary Products	Processed Agricultural & Subsidiary Products	Industrial & Mining Products	Agricultural & Subsidiary Products	Processed Agricultural & Subsidiary Products	Industrial & Mining Products
1950	318	183	51	57.5	33.2	9.3
1952	488	188	147	59.3	22.8	17.9
1978	2,691	3,414	3,640	27.6	35.0	37.4
1979	3,157	4,486	6,014	23.1	32.9	44.0

II. Composition of Import Commodities

Year	Import Volume (in US\$ million)		Import Volume (in %)	
	Capital Goods	Consumer Goods	Capital Goods	Consumer Goods
1950	486	97	83.4	16.6
1952	999	119	89.4	10.6
1978	8,864	2,029	81.4	18.6
1979	12,747	2,928	81.3	18.7

Total Volume of China's Foreign Trade (in US\$ billion)

	1950	1952	1978	1979		
				Total Volume	Increase over 1978 (%)	Taking 1950 as 100
Total Trade	4.15	6.46	35.50	45.46	28.1	1,095.4
Total Imports	2.13	3.75	18.74	24.29	29.6	1,140.4
Total Exports	2.02	2.71	16.76	21.17	26.3	1,048.0

Domestic Commerce

[Article by Su Xuesheng [5685 1331 3932--The author's name may be translated literally as "Soviet Student"]]

In 1979, Chinese commercial departments achieved marked successes in serving the interests of industrial and agricultural production and the livelihood of the people, while adhering to the policy of readjusting, restructuring, consolidating and improving the national economy and carrying out the principle of "developing the economy to assure supplies."

There were abundant supplies in urban and rural markets to guarantee satisfaction of the basic livelihood needs of the people. In 1979, the total volume of retail sales of social commodities in China was 14.7 percent higher than that of 1978, that of commodities in cities was 16.8 percent higher, and that of commodities in counties and lesser administrative units 11.6 percent higher, of which that in administrative units below the county level 13.3 percent higher. The sales volumes of major consumer goods--foodstuffs, clothing, daily necessities, fuel--showed an overall increase. There was a marked improvement in the supply of food items. The total sales volume of ten items--grain, edible oil, meat, eggs, aquatic products, sugar, tobacco, liquor, salt, and caustic soda--showed an increase of 12.6 percent over that of 1978, and that of pork, in particular, showed an increase of 25 percent. In hog-producing areas and in Beijing, Tianjin, Shanghai and other municipalities, pork was obtainable without rationing. The supply and variety of candies, cakes, spirits and delicatessen items also increased. The market conditions for clothing were also excellent. The sales volume of 10 major commodities including cloth, knitwear, cotton textiles, and rubber shoes increased by 16.2 percent over that of 1978. Retail sales of cotton cloth and chemical fiber cloth increased by 850 million meters, averaging 2.7 chi [.9 meters] per capita, after guaranteeing the requirements for rationed cloth. The sales volumes of all kinds of woolen piece goods, knitting wool, silk piece goods, bed covers, and leather shoes showed substantial increases, too. Sales volumes of daily necessities showed substantial increases, too. Sales volumes of daily necessities showed faster increases over 1978. Sales of bicycles, sewing machines, radio sets, and watches showed increases of from 18 to 40 percent; of soap, 15 percent; laundry detergent, 7.6 percent; thermos bottles, 9 percent; television sets 200 percent, and tape recorders 300 percent. As for fuels for home use the sales volume of coal and kerosene was 3.8 percent higher. In 1979, supplies of industrial products were noted not only for their larger quantity, higher quality, and greater variety, but also for a large number of new products, such as refrigerators, electronic watches, electronic calculators, electric razors, induction fans, calendar watches, multi-purpose sewing machines, multi-speed bicycles, plastic carpets and coarse woolen piece goods.

Following the development of industrial and agricultural production, the supply of commodities increased by a large margin, and the commercial departments increased the purchase of industrial and agricultural products, thus promoting the further development of industrial and agricultural production. In 1979, the total volume of commodities purchased by state-operated commercial units showed an increase of 14 percent over that of 1978. The total volume of agricultural and subsidiary products purchased amounted to 58.68 billion yuan, or 27.6 percent greater than that of 1978. The purchase volumes of such major agricultural and subsidiary products as grain, edible oil, poultry, eggs, silk, tea, wool, apples,

and oranges were all greater than those of 1978. The purchase volume of live hogs was 29 percent greater. The average weight of each live hog purchased was 12.1 jin greater, cumulatively equaling an additional 10 million hogs purchased, resulting in overfulfillment of planned allocations for that purpose by 75 percent. The volume of fresh eggs purchased was 49.8 percent greater. Thanks to the measures adopted by the state to promote the development of the textile and light industries, purchases of industrial products increased at a relatively fast speed. The total amount of industrial products purchased in 1979 amounted to 140.56 billion yuan, showing an increase of 9.8 percent over that of 1978. Within this figure, purchases of industrial products processed from industrial and mining raw materials were 13.1 percent greater, and of those processed from agricultural and subsidiary products, 5.3 percent greater. The purchase volumes of 34 of the 42 major industrial products showed increases over those of 1978. Sales of television sets, which were in greatest demand, increased by more than 100 percent, while sales of bicycles, sewing machines, watches, and radio sets by from 7 to 17 percent.

The remarkable increases in the purchases of industrial, agricultural and subsidiary products contributed to a rather large increase in inventory and an improvement in the composition of inventory. By the end of 1979, the total inventory kept by state-operated commerce was 11.6 percent greater than that at the end of 1978. The percentage of inventory kept by second-level wholesale stations and third-level wholesale stores diminished a little, while that of retail units increased to some extent. Along with the increasing inventories of major commodities, the percentage of inventory of the most popular regular commodities increased from the 84.7 percent in 1978 to 88.7 percent in 1979, reflecting a turn for the better in the composition of commodity inventories.

Building on the continual expansion of commodity circulation, there was a strengthening in construction in the commercial network itself. In 1979, large numbers of sales outlets and warehouses were built across the nation, and additional freight vehicles and vessels, of both general and specialized use, were made available to this network. In addition, a number of modern warehouses, oil storage tanks, refrigeration warehouses, and thermostatically controlled vegetable warehouses were the focus of construction in large cities and commodity collection and distribution centers. Some of them also adopted advanced management techniques to administer their systems. Preliminary statistics show that in 1979, China increased its state-operated sales outlets by more than 10,000. At the same time, a large number of collectively-operated sales units and restaurants came into being, with collective commercial outlets now amounting to 30-40 percent as many as state-operated retail sales units. In 1979, more than 120 refrigeration warehouses, large, medium and small, were completed and put into operation, with a total refrigerating capacity of more than 100,000 tons, topping the refrigeration warehouse construction of any other year in the past ten or more years. These warehouses greatly increased the capacity of the state to keep beef, mutton, pork, poultry and fresh eggs in cold storage, thus playing an important role in promoting the development of industrial and agricultural production and increasing the supply of meat and eggs to cities.

In 1979, there was great improvement in the management and administration of commerce, and good results were achieved in the campaign to increase production and practice economy. During that year, the broad masses of workers and staff employees in the system under the Ministry of Commerce universally participated in this campaign to promote production, expand commodity circulation, improve

management, and increase accumulation, in line with demands from party and government. Many areas adopted measures to simplify redundancies in their organizations, reduce the number of transshipment points in goods circulation, and brought about greater use of direct-line transportation. As a result, they cut short transportation mileage by more than 1.6 million kilometers in 1979, saved more than 300 million ton-kilometers of shipping capacity and more than 200 million yuan in transportation expenditures. [The "300 million ton-kilometers" figure is given literally as "3 trillion" in the original, but there appears to be a typographical error--an extra "wan"--that throws the figure off by a factor of 10,000.] Many areas also adopted measures to accelerate capital turnover and reduce commodity circulation expenses. In 1979, capital turnover was shortened by 22 days as compared with that of 1978, the level of expenditures dropped 0.86 percent, and the amount of profits handed over to the state was 13 percent greater. Many enterprises relentlessly stressed the practice of economy and the unearthing of latent energy. In 1979, more than 2,000 enterprises switched their deficits into profits. Among those enterprises which still suffered from deficits, their total deficits were reduced by 26 percent. Some of the enterprises managed to markedly reduce their deficits which were allowed by the state as a matter of policy. During the campaign for increasing production and practicing economy and the labor emulation drive, many advanced units and individuals emerged in the system under the Ministry of Commerce. In 1979, 24 units were named national advanced units, and 32 individuals were named national labor models by the State Council; 50 units were named New Long March commando brigades and 350 individuals New Long March shock workers by the Central Committee of the Communist Youth League; and 36 units were named red flag collectives and 417 individuals "March 8th" red flag pacesetters by the All-China Federation of Women.

[Article by Zhang Caiqing [1728 6846 1987]]

Close Industry-Commerce Coordination

The relationship between industry and commerce in China is a new form of relationship of coordinated division of labor founded on the system of public ownership. Under the guidance of the state policy of readjusting, restructuring, consolidating and improving the national economy, through close coordination, mutual support and mutual promotion, industrial production showed quick development and commercial operations achieved continual expansion, which has brought a great improvement in the relationship between industry and commerce.

Under the new policy of regulating the economy both by planning and by market conditions, the development of industry was more oriented toward serving the interests of market. Commercial authorities were more eager to reflect to the industrial authorities the demands of consumers, offering to assist them in the readjustment of certain enterprises and the reshuffling of their products. A number of enterprises whose products were of poor quality and high-priced and whose operations were at a deficit, and a number of small plastics, tobacco, and fur-processing factories which competed with big plants in raw material consumption were closed, suspended, amalgamated and converted. A number of new plants were built to produce commodities in urgent need. Military industrial units and heavy industrial units were assisted to produce, some on a trial basis, such civilian products as refrigerators, motor cars, and washing machines. Old plants were encouraged to develop their potentials and undergo renovation to produce commodities of attractive new design at reasonable prices.

Following the readjustment of industrial and commercial enterprises, their products were more in keeping with market demands. The state increased its purchase of popular commodities which were in short supply. In 1979, the purchase volumes of such commodities as soap, electric bulbs, leather shoes and bicycles were more than 10 percent greater than in 1978, purchases of polyester and chemical fabric, which are in popular demand, were 20 and 40 percent greater, respectively, and purchases of television sets and tape recorders were more than 100 percent greater. The number of new products produced, some on a trial basis, in 1979 topped that of any previous year. More than 3,000 new products were placed on exhibition in the National Light Industry New Products Exhibition. This greatly enriched the supply of commodities on the market.

Keeping in pace with the development of production, the commercial authorities restored and established a commodity examination system, and changed their indifferent attitude of early 1979 toward the purchase of industrial products. All storable commodities for which the price matched the quality, but which were temporarily overstocked were purchased, placed in storage as needed and actively marketed. Thanks to the joint efforts of both industrial and commercial authorities, the total amount of industrial products purchased in 1979 was 9.8 percent greater than in 1978.

Some improvement was achieved in the commodity marketing system, on the basis of the development of production, to bring the role of market conditions as regulator of the economy into full play. For many years, industrial products had been under the rigid control of commercial wholesale departments which monopolized their marketing. To change this situation, and according to different conditions for commodities in categories 1, 2 and 3, industry-commerce links were broadened from the single method of state monopoly purchasing and sole-agent marketing to an experimental use of many methods, such as: state monopoly purchasing and marketing; planned purchasing; purchasing by prior orders; purchasing by free choice; commissioning of commercial agents by industries to sell on commission; or to sell as agents of the industries; marketing through direct links between factory and retail outlet; or marketing by the plants themselves. In Tianjin, Shanghai, Wuhan and some other cities, wholesale markets for sundry commodities were restored to facilitate transactions between industrial and commercial units as well as between wholesalers and retailers. After its restoration for two months, the Wuhan sundry commodity wholesale market was attended by dealers from more than 10 provinces, with a total volume of transaction amounting to 2 million yuan, covering 2,652 types of commodities. The supply and marketing cooperatives in China opened more than 600 warehouses to engage in buying, selling, storing and transporting agricultural and subsidiary products, industrial raw materials, and sundry industrial products on consignment for enterprises, communes and production brigades and teams. Many provinces and municipalities also authorized the restoration of consignment companies and sales departments operated by industrial plants. Industrial and commercial units gradually returned to the production-and-marketing contract system according to state plans. Large numbers of trade fairs were held throughout China. In Chongqing, Ningbo, Jinan, Foshan and some other cities, industrial and commercial enterprises held joint symposiums to study the demands of consumers, exchange views between producers and sellers, achieve unity in opinions, eliminate disputes in procurement and marketing, and establish closer relationships. All these measures were beneficial to the development of production, the expansion of trade between urban and rural areas, the improvement of marketing conditions, and the promotion of more active and better transactions.

Urban Collective Commerce

Urban collective commerce and services are elements of the economy under collective ownership, with a socialist character. They are noted for their independent accounting, for taking sole responsibility for their profits and losses, for greater autonomy and flexibility in their operations, for their wide dispersion throughout the country, for their smaller scale in business operations, and for their ability to meet the convenience of the people. The development of collectively-owned commerce is in keeping with present economic conditions in China and with the popular demands of the broad masses of the people.

In 1957, there were 790,000 urban collective commercial units, large and small, in China, accounting for two-thirds of the retail and service units controlled by the Ministry of Commerce, and employing 1.98 million staff personnel and workers, or 45.5 percent of all employees in retail commerce and services controlled by the Commerce Ministry. Nevertheless, over a long period of time, the number of collective commercial units not only failed to increase but substantially decreased. By 1964, their number had diminished by 62 percent to 300,000, and their employees by 30 percent to 1.35 million. During the period of the cultural revolution, due to the interference and sabotage of Lin Biao and the "gang of four," the number of collective commercial units was further cut down in the name of "cutting off the tail of capitalism." Compared to the figures in 1964, their number further diminished by 80 percent to 60,000, and their employees by 40 percent to a little over 800,000. After the "gang of four" was smashed, the state adopted a series of measures to develop collective commerce. In 1979, the State Council and other related authorities affirmed that collective commercial units are socialist in nature, and clarified many problems demanding urgent solution for the development of collective commerce, such as the organization of their trade unions, the wages and welfare of their employees, their ways and means to get supplies, and the distribution of such supplies. With the support of urban neighborhood committees, industrial and mining enterprises and state-operated commerce, large numbers of collective-operated restaurants, wineshops, hotels, tea houses, barber shops, photo shops, sewing shops and repair shops mushroomed. According to incomplete statistics compiled in 24 provinces, municipalities and autonomous regions, by the end of 1979 the number of collective-operated commercial units had been restored to 99,000, equal to 44 percent of the retail commercial and service units under the control of the Ministry of Commerce in these provinces, municipalities and autonomous regions, and employment had rebounded to 1.04 million staff personnel and workers, equal to 38.9 percent of the workers and staff in the above-mentioned Ministry-run retail units.

The development of the collective-commerce is playing an increasingly important role in promoting production, invigorating market conditions, expanding the commercial network, providing more convenience to the masses, and increasing the employment of the unemployed young people.

[Article by Wang Shaoquan [3076 4801 6898]]

The Development of Urban Food and Drink Services

Food and drink services are closely bound up with the daily livelihood of the broad masses of the people. At the time when Lin Biao and the "gang of four" were running wild, these facilities were devastated. This category of enterprises was thrown out of shape and out of style, with both their numbers and their professionalism seriously reduced, causing great inconvenience to the masses. Since the smashing of the "gang of four" and, particularly, since 1979, a network of such facilities has sprung up with new vigor, adding new service items, restoring traditional food items, training new personnel, and paying their employees according to the principle "to each according to his work."

The number of restaurants and service units has grown rapidly, with mostly small and collective-operated units equipped with the simplest of equipment, with both street vendors and shops and distributed in a rational pattern. According to incomplete statistics, in 1979 there were 72,000 urban food and drink service units, large and small, under the control of the commercial departments, showing an increase of 4.1 percent over 1978. These facilities employed a total of about 1,295,000 workers and staff, an increase of 6.9 percent. In addition, large numbers of restaurants and service units under collective ownership mushroomed on urban streets, offering employment to large numbers of unemployed young people.

Through the study of actual conditions, such as the size of these facilities, their type of customers, their equipment, manpower and location, many localities managed to expand the network of these facilities, increase their types of services, restore their traditional items, and bring their specialties into full play. In Shanghai, for instance, state-operated food and drink establishments again began offering 600 specialty menu items. Some localities also developed tourism, organizing special tours to scenic areas and historic sites to enrich the lives of the people and open a new way to recall currency from circulation without commodities.

To solve the problem concerning the critical shortage of technically trained personnel, the various localities opened training schools and classes, promoted on-the-job training and apprenticeships, and conducted technical examinations to provide trained personnel to restaurants and service units. Statistics compiled in 23 provinces, municipalities and autonomous regions show that during 1978 and 1979, the various localities awarded the titles of special class and first class cooks, barbers, photographers, pedicurists, dyeing technicians, clothes mending technicians, and service specialists to 443 persons according to the "Criteria for Grading Professional and Technical Personnel of Commercial Enterprises" promulgated by the Ministry of Commerce and with the approval of the revolutionary committees of the various provinces, municipalities and autonomous regions concerned. Thanks to the training programs and the awarding of titles, not only were traditional techniques continued and improved, but the quality of services of restaurants and service units was markedly improved also.

To carry forward the principle "to each according to his work" and bring into full play the work enthusiasm of staff personnel and workers, beginning in 1978 the barber shops began to adopt the system of paying bonuses over and above the basic pay to barbers who overfulfilled their work quotas. In 1979, this system was

adopted by other trades too. In some cases, the amount of each bonus was calculated on the basis of a given percentage of total profits, in other cases the bonus was based on the amount of profit earned from the overfulfilled portion of one's work quota, and in still others it based on a combination of the two. This practice enabled the state to gain more profits, the workers concerned to increase their income, the customers to save time, and the enterprises to accumulate more funds for improving their service conditions.

[Article by Yang Min [2799 2404]]

Organize the Circulation of Commodities According to Economic Zones

It is one of the important principles of socialist commerce to organize the circulation of commodities according to economic zones. In the 1950s and, particularly, in the early 1960s, commercial authorities in China earnestly popularized the experiences gained by the Tangshan prefecture of Hebei Province in organizing the circulation of commodities according to economic zones, and many localities succeeded in establishing their wholesale commodity circulation networks accordingly. During the great cultural revolution, however, due to the interference and sabotage of Lin Biao and the "gang of four," many localities changed their practice of organizing the circulation of commodities according to economic zones to doing so according to administrative areas, resulting in overlapping control organs, unnecessary transshipments, dispersion of inventory, unnecessary detours in transportation, and greater expenditure in commodity circulation.

After the "gang of four" was smashed, the various localities started to pay attention to the restoration of the practice of organizing commodity circulation according to economic zones. In October 1979, the State Council approved a report of the Ministry of Commerce on its suggestions for improving commercial work, and reiterated the need to "rearrange the locations of second-level wholesale stations according to economic zones." Thereupon, the Commerce Ministry issued the "Notice Concerning the Relocation of Second-Level Wholesale Stations to Improve Wholesale Networks," demanding that second-level wholesale stations be rearranged and relocated according to economic zones, that such stations be situated in cities serving as production centers and hubs of transportation, that the sphere of supply of a second-level wholesale station be delimited by rational commodity circulation routes, not determined by the division of administrative areas, that overlapping wholesale organizations be streamlined, that unnecessary transshipment links be eliminated, that each zone be served by one set of wholesale supply units according to the practice of conducting rational commodity circulation, that the supply of commodities be carried out strictly according to economic zones, cutting across administrative areas, and that transportation lines be selected so that they are as direct as possible and as close to the plants, railway stations, wharves and warehouses concerned as possible.

In 1979, a total of 51 second-level wholesale stations and 132 third-level wholesale outlets were relocated, eliminated or amalgamated according to economic zones, the number of transshipments in commodity circulation within an economic zone was reduced by one or two or three, and irrational transportation lines were rearranged, saving more than 200 million yuan in transportation expenses, shortening transportation mileage by more than 1.6 million kilometers, saving transportation volume by more than 300 million ton-kilometers, and saving transportation labor by more than 4 million man-days. In Hunan, the whole province was divided

into eight economic zones on the basis of the economic and communications conditions in that province, enabling it to eliminate six second-level wholesale stations, and to eliminate or amalgamate 29 overlapping wholesale organs. In rearranging and relocating wholesale stations according to economic zones, Heilongjiang province reduced the number of second-level wholesale stations from the 52 in the past to 24, reducing their workers and staff from the 7,000-odd in the past to a little over 5,200 reduced the number of transshipment points so that the amount of funds taken up by commodities in transshipment was reduced from the 30-50 percent in the past to about 10 percent, reduced the amount of commodity inventories by more than 30 percent, increased the proportion of commodities of popular demand in stock, and reduced the amount of overstocked commodities from the 11 percent in the past to 8 percent. As a result, commodity circulation in Heilongjiang was carried out with reduced mileage, in shorter time, with a lower number of transshipments, with minimum losses on the way, and at less expense.

Increase the Purchase Prices of 18 Agricultural and Subsidiary Products
(See the section: Agriculture--Raise the Purchase Prices of Agricultural and Subsidiary Products)

[Article by Jiang Huiying [5592 1979 5391]]

Raise the Selling Prices of Eight Non-staple Food Items

In March 1979, following the rise in the purchase prices of principal agricultural and subsidiary products, a development occurred where the selling prices of certain products fell below their purchase prices. To reverse this abnormality detrimental to certain enterprises, promote the development of production, stabilize market conditions, bring into full play the work enthusiasm of commercial units in their operations, stop the backward flow of supplies from urban to rural areas, and make it impossible for opportunists and profiteers to benefit by it, the CCF Central Committee and the State Council issued a joint circular, announcing that from 1 November 1979 the selling prices of eight major non-staple food items including pork, beef, mutton, poultry, eggs, vegetables, aquatic products, and milk, and all other consumer goods using these eight food items as raw materials. Specifically, on the basis of their prices in 1978, the selling price of pork was raised by 33 percent, that of fresh eggs 32 percent, of aquatic products 33 percent, and of beef and mutton, basically the same as pork in money terms. The selling prices of vegetables would be under strict control, with little or no increase. The selling prices of poultry and milk would be readjusted upward as appropriate by local authorities according to concrete local conditions and be subjected to strict control.

To compensate for the increase in expenditure caused by this normal increase in the prices of some of the non-staple food items, the state granted some subsidies to workers and staff (including retired staff employees and workers and apprentices), and adopted a string of important policies and measures to assure the stability of the prices in urban areas of such basic daily necessities as grain, edible oil, and cotton, increase the wages of some employees, readjust the wage differentials among different localities, issue additional bonuses, increase employment, strengthen price control and prohibit unauthorized increases of prices. After much work was done by authorities concerned, the market conditions in general were good and the supply of non-staple food items, in particular, showed marked improvement.

[Article by Su Xuesheng]

The Development of the Advertising Business

Since the founding of the New China, on the basis of reforming the old advertising business, commercial departments gradually gave form to a socialist advertising business. Nevertheless, due to their failure to realize the functions and scope of advertising in a socialist society, these authorities did not develop it at a fast rate. During the period when the "gang of four" was running wild, advertising was slandered as the sinister trash of revisionism and was seriously undermined. After the "gang of four" was smashed, the state advanced the policy of "regulating the economy simultaneously by planning and by market conditions" and paid more attention to the law of value, thereby paving the way for the restoration and development of the advertising business. Since 1979, many localities have quickly developed their advertising operations. Advertising companies have been established in 12 provinces, municipalities and regions, including Beijing and Shanghai, to handle advertising business at home and abroad. All kinds of advertisements began to appear on busy city streets and in shops, parks and sports grounds. In addition, advertisements were carried in central and local radio and television programs, newspapers and periodicals. By now, there are more advertisements and of more types than ever before since the founding of the New China.

Socialist advertising can play a positive role in promoting the interests of industrial and agricultural production, consumers, commodity circulation and international trade. Oftentimes when a new product was produced by a factory, there was a poor market for it, because the consumers were unaware of its use, properties, and characteristics. Through advertising, it could become an item of popular demand. There were many such cases in 1979. From now on, in line with the development of our national economy, the continuous expansion of social commodity circulation, the continual appearance of new products of new patterns and new varieties, and the day-by-day strengthening of China's international economic contacts, there is great potential for the development of the advertising business in China.

Total Retail Sales of Social Commodities in China

Year	Absolute Figures (in billion yuan)			Increase Over Previous Year		
	Total Retail Sales of Social Commodities	Consumer Goods	Agricultural Capital Goods	Total Retail Sales of Social Commodities	Consumer Goods	Agricultural Capital Goods
				(%)	(%)	(%)
1950	17.06	16.33	0.73	21	22	9
1952	27.68	26.27	1.41	18	17	37
1978	152.75	123.38	29.37	8.3	7.1	13.6
1979	175.25	142.85	32.40	14.7	15.8	10.3

Social Retail Sales of Major Consumer Goods in China

Commodity	1950	1952	1978	1979		
				Total Retail Sales	Increase over 1978	With 1950 Levels Taken as 100
Grain ^{1/} (million tons)	26.13	29.61	46.05	46.50	1.0%	178.0
Edible vegetable oils ^{2/} (thousand tons)	525	765	845	100.0	18.3%	190.5
Live hogs ^{3/} (million head)	33.20	34.43	102.89	120.35	17.0%	362.5
Fresh eggs (thousand tons)		132	394	609	54.5%	
Cotton cloth (billion meters)	2.04	3.02	6.05	6.27	3.6%	307.4
Chemical fabric (billion meters)			0.59	0.90	52.5%	
Polyester blended fabric (billion meters)			0.72	1.10	52.8%	
Sewing machines (thousand units)	79	100	4,398	5,400	22.8%	6,835.4
Bicycles (thousand units)	140	335	8,096	9,545	17.9%	6,817.9
Watches (million units)		0.385	13.881	19.444	40.1%	
Television sets (million units)			0.551	1.807	227.9%	

Note: 1/ Grain in trade

2/ Includes oil seeds in oil equivalent

3/ Includes fresh pork, frozen pork, and pork products

Goods and Materials

[Article by Wu Zhong [0124 0022]]

Supply Situation for Major Domestic Goods Under Unified Allocation

In keeping with the needs of a socialist planned economy, and in implementation of unified planning with administration at different levels, the means of production in China's industry (generally termed "goods and materials") are divided into three categories: unified allocation by the state (256 types), administration at the ministry level (581 types), and local administration (7,560 types in Shanghai, for example). Goods coming under unified allocation by the state include fuels, principal raw materials and important equipment. To fulfill state contracts for the supply of these goods is a matter of great importance toward the fulfillment of the entire national economic plan.

The year 1979 was the best in the past dozen or so years in the fulfillment of state contracts for the supply of goods of the first category. Statistics show that for 41 major goods and materials under state control for unified allocation, contracts for the supply of the following 18 types of goods were fulfilled 99 percent or more (amount actually supplied, as a proportion of the amount contracted to be supplied): steel products, copper, aluminum, lead, zinc, copper products, aluminum products, lead products, pig iron, coal, sulphuric acid, concentrated nitric acid, soda ash, rubber, timber, road rollers, rubber-tired cranes, and jack hammers; contracts for the supply of the following 17 types of goods were fulfilled from 95 to 99 percent: cement, caustic soda, motor vehicles, bulldozers, belt conveyers, excavators, ore loading machines, hoists, electric bridge cranes, truck cranes, air compressors, gas separators, refrigerators, metal cutting lathes, electric cables, bare copper wire, copper trolley-car wire, and internal combustion generators; contracts for the supply of the following four types of goods were fulfilled from 90 to 95 percent: crushing machines, grinding machines, forging machines, and industrial boilers; and contracts for the supply of only the following two types of goods were fulfilled less than 90 percent: ore dressing machines and electric locomotives for industry and mining with a capacity of 80 or more tons.

Compared with the figures for 1978, the supply of 34 of the above-mentioned 41 goods showed increases. For instance, the actual supply of steel products fulfilled 99.4 percent of the total amount in state contracts, with the amount supplied showing an increase of 9.1 percent over that of 1978. In particular, that of such products in short supply as small shaped steel, wire rods, and welded steel tubing showed increases of about 20 percent. Of the 28 key iron and steel enterprises in China, 18 fulfilled their supply contracts with the state. The actual supply of timber overfulfilled the total called for by state contracts by 4.8 percent, showing an increase of 2.1 percent over 1978. Of the 15 timber-producing provinces and autonomous regions in China, 13 fulfilled their timber supply contracts with the state. The actual supply of coal by collieries under the unified allocation authority of the state fulfilled 99.1 percent of coal supply contracts with the state, showing an increase of 4.2 percent over that of 1978. The average ash and rock content of all commodity coal supplied by collieries under unified allocation diminished by 1.12 percent from 1978 levels, equaling in value the supply of an additional 4 million tons of coal to the state. In addition, the supply of seven kinds of motor-driven and electric machinery, including motor vehicles and belt conveyors, showed increases of from 30 to 70 percent as compared to 1978 figures.

[Article by Wu Zhong [0124 0022]]

The Structure of Management and Administration for Goods and Materials and the Construction of Supply Networks and Units

China's goods management structure is now in the process of rapid restoration. By 1979, the 29 provinces, municipalities and autonomous regions had completely restored and reinforced their material supply bureaus and their subordinate specialized management corporations. There were 19,500 comprehensive and specialized supply networks and units for all kinds of materials under the control of the material supply departments at all levels in the various provinces, municipalities, autonomous regions, prefectures, cities and counties. Of this number, 5,800 were in urban areas and 13,600 in rural areas, employing 23,000

full-time and part-time service workers for servicing their supplies in factories, farms, and private households.

The General Office of the State Supplies Bureau has established the following nine national specialized general corporations: The China Metal Materials Company, China Fuel Company, No.1 Motor-Driven and Electric Equipment Company, No.2 Motor-Driven and Electric Equipment Company, China Timber Company, China Chemical Engineering Company, China Metal Reclamation Company, China Moving and Storage Company, and China Container Transportation Company, restored its five branch offices in Shenyang, Tianjin, Wuhan, Xi'an and Chengdu, and established coal allocation and shipping teams and stations at 50 major coal mining bureaus distributed in 11 major coal-producing provinces. Adopting such *modi operandi* as joint operations with local specialized companies, commissioning local companies to act as agents, and setting up supply stations under direct central control, these specialized companies established a large number of supply networks and units responsible for supplying materials to enterprises under the direct control of the central authorities.

The State Supplies Bureau head office requested the material supply departments at the various levels and the specialized companies to formulate plans for completing the establishment of a sound, comprehensive national material supply network in 2 or 3 years.

[Article by Wu Zhong [0124 0022]]

Ways and Means To Improve the Supply of Materials

Acting in accordance with the principle of reforming the economic system decided on by the CCP Central Committee and the State Council, and while they were in the midst of studying and formulating a plan for the reform of the materials supply management system, the materials supply departments at all levels have been exerting themselves to improve their management and to meet the call to handle economic work and materials supply in a livelier manner. To overcome as quickly as possible the malpractice of over-rigid controls for applying from one level to another for the allocation of materials, with the resultant poor linkage among supply, production, and marketing, they advanced many flexible methods of handling the planned allocation of materials, the major of which include the following:

Allow the users to place orders for materials, within their total allotted quota, according to their needs. One way to do so is not for the suppliers to issue control figures limiting supplies item by item, but to allow the user to submit a list of the supplies he needs, complete with their specifications (such as in the case of steel products), and conclude and sign a contract with the suppliers. Another way is for the users to wait until their construction and production plans are finalized before ordering their supplies according to their needs (such as in the case of non-ferrous metals).

Supply by coupon. Issue "supply coupons" according to allotted quotas, so that the users may use them to get their supplies from the supply centers or units as the occasion demands according to the types meeting their needs, without being subject to restrictions on time, place of supply, kinds of materials, or specifications. Coupons may also be used to transact processing orders (such as for copper, aluminum, lead, zinc, copper products, aluminum products, lead products, cast iron, etc.)

Supply by verifying need. Supply the users with goods and materials according to their actual needs, with or without assigned quota. Some of the users are supplied according to their scheduled consumption, others according to their processing speed, still others according to their coupons kept in hand, and still others according to the fluctuation of their inventory (such as in the case of steel products, hard alloys, chemical industry products, timber, construction materials and motor-driven and electric equipment of the second category, used for production, maintenance, capital construction, technical renovation or scientific research).

Wide open supply. Supply the users without restrictions of any kind, at all times or during assigned periods, according to the availability of goods and materials and the actual situation of the users concerned. Such unrestricted supply may be limited to spare parts and fractional needs (such as most of the products of the machinery and electrical equipment industries of the second category, some of the products of the electrical equipment industry coming under unified distribution, products of the chemical industry, and metal materials).

Open more retail centers to meet civil needs, allowing the buyers to buy small portions of products (such as in the case of chemical industry products and steel materials).

Develop the equipment rental business (such as all kinds of machines, equipment, hand tools and tools used in building construction).

All these measures have simplified matters to the convenience of the users, while guaranteeing the satisfaction of needs, reducing social inventory, and speeding up the circulation of goods and funds.

[Article by Wu Zhong [0124 0022]]

Establish Capital Goods Marketplaces

Since 1979, there has been a growth of market regulation of the circulation of producers' goods in line with the principle of regulating the economy both by planning and by the market. Sizable producers' goods marketplaces have taken shape in Shanghai, Jiangsu and Sichuan and other localities after trade fairs were held. In these marketplaces, transactions can be conducted in many ways (such as at assigned booths, through salesmen, by mail or telegraphic orders, or by holding large trade fairs), the sellers and buyers enjoy total freedom (without being restricted by the categories of goods and materials, by the demarcations of administrative areas, by the chain of command of enterprises, and by the two types of socialist ownership concerned), and the prices are flexible (such as according to state-assigned prices, local prices or floating prices). In these marketplaces, the traditional view that capital goods are not commodities and cannot be traded on the market was overthrown, enabling the buyers to get supplementary supplies when plan allocations are insufficient and allowing redress imbalances of supplies among localities and enterprises. It is also beneficial to a rational development of competition, and to encouraging enterprises to improve the quality and increase the variety of their products and to lower their costs. These marketplaces have received the enthusiastic support of the producers as well as the consumers.

The capital goods service companies of the materials supply departments of the various localities are the main organizers of capital goods marketplaces. At present, there are some 500 capital goods service companies in the whole country. Their "four agents and one adjustment" business (whereby they serve as purchasing agents, marketing agents, shipping agents, and processing agents as well as helping in trading activities) has seen a further growth, so that they have formed the beginning of a nationwide capital goods service network. Their annual business volume amounts to 3 billion yuan, of which one billion came from the transactions conducted in the 50-odd marketplaces scattered in the various localities.

The materials supply departments of Shanghai, Beijing, Tianjin, Sichuan and Liaoning are making preparations for establishing permanent capital goods marketplaces to serve as regional centers for trade, market information and services, to create the conditions for organizing according to plan and further invigorating market regulation of producers' goods.

[Article by Wu Zhong]

Make Use of Overstocked Supplies

Taking inventory of warehouse stocks is an important job in speeding up the turnover circulation of commodities and making fuller use of goods and materials. Taking inventory involves three tasks: counting the materials in stock; determining the stock turnover quota; and making use of overstocked supplies. In 1979, the various localities and departments stressed carrying out the latter two tasks, after the first was out of the way.

By the end of 1979, most of the enterprises in China had completed determining their stock turnover quotas. This paved the way for improving their management and administration. According to statistics compiled at the end of 1979 by 27 provinces, municipalities and autonomous regions and 34 departments of the central government, the overstocked goods and materials identified by this inventory of their enterprises amounted to 31 percent of the total value of goods in storage in these units, including 20.5 percent of the total amount of steel materials in storage and 34 percent of the total value of machinery and electrical products in storage.

The various localities and departments paid attention to the work of closely coordinating the utilization of their overstocked supplies with the campaign for increasing production and practicing economy. They have adopted positive measures to make use of overstocked supplies and speed up their enterprise capital turnover, such as having such supplies transferred, sold by agents or at trade fairs, reprocessed and fixed for marketing, or otherwise utilized before ordering more supplies, and asking the banks to control their loans accordingly. Statistics show that of the total value of overstocked materials, 34.4 percent were utilized in 1979, including 63 percent of the overstocked steel materials and 30.6 percent of the overstocked machinery and electrical products.

[Article by Wu Zhong]

Launch a Fuel Conservation Emulation Drive

To assure fuel supply and minimize waste, the State Council in 1978 decided to ration the supply of coal and oil "in the same manner as grain," and approved the "Unified Fuel Control and Rationing System" formulated by the State Planning Commission in coordination with other departments concerned. This system has been put into practice throughout the country. Since March 1979, the fuel companies of 72 cities in 18 provinces, municipalities and autonomous regions have carried out an emulation drive with marked success in improving fuel control and conservation.

In the past year, of the 25,900 major coal-consuming enterprises at the world level and above in these cities, 24,300 (93.8 percent) put into operation rationing by coupon; 11,400 (44 percent) assigned coal consumption quotas to their workshops, shifts of workers, and furnaces; and 19,600 (75.7 percent) adopted monthly and quarterly coal consumption checking systems. By the end of 1979, 12,200 enterprises (47.1 percent) reduced their coal consumption to their lowest historic levels.

In 1979, China conserved 23 million tons of coal and 2 million tons of fuel oil. In the 72 cities which participated in the fuel conservation emulation drive, their industrial production values increased by an average of 9.87 percent, while the increase in fuel consumption amounted only to 0.53 percent. In 32 cities, including Shanghai, Nanjing, Wuhan and Dandong, in particular, their industrial production value increased by 9.16 billion yuan, or 10 percent, while their fuel consumption was reduced by 1.286 million tons, or 4.6 percent, thereby fulfilling their goal of increasing production through fuel conservation and speeding up industrial development through minimizing fuel consumption.

[Article by Wu Zhong]

Popularize the Multiple-Purpose Utilization of Timber

In China, the direct timber utilization rate amounts to about 50 percent. What is left over after timber processing is mostly disposed of as waste. In Hangzhou Municipality of Zhejiang Province, however, an integrated complex to process and supply timber was established to reform the timber management system. It adopted the multiple-purpose utilization of timber from centralized processing to centralized supply of timber and finished and semifinished timber products to capital construction and packaging units throughout the city, run by Hangzhou Municipality, Zhejiang Province, and the central government, thereby increasing the timber utilization rate to 95 percent (72.7 percent for the direct utilization of the original timber and 22.3 percent for the utilization of leftover bits and pieces and damaged lumber).

In China, the forested area is relatively small, covering only 12.7 percent of the territory, averaging less than 10 cubic meters of timber per capita, much less than the world average. With uncontrolled lumbering in excess of regrowth in forests over many years past, the timber resources in China have so diminished as to adversely affect the production, construction and livelihood of the people. For this reason, it is important to popularize the experience of Hangzhou to solve the shortage in timber supply by centralizing timber processing work and raising the

timber utilization rate. In September 1979, the State Council promulgated the "Report of the State Planning Commission, the State Economic Commission, and the State Supplies Bureau on Popularizing the Experience of the Hangzhou Timber Company to Increasing the Rate of Utilization of Timber," stipulating that all cities in China assign only their timber companies to engage in the integrated and organized processing and supply of timber, and that with the exception of absolute needs requiring the use of raw timber (such as for tunnel supports, piles, powerline poles, etc.), no unprocessed timber should be allocated directly to users anymore. In November 1979, a National Timber Work Conference was held, at which it was decided that in 1980 timber processing and supply be integrated on a trial basis in 45 cities including Beijing, Tianjin and Shanghai, and that this practice be followed by all cities in 1981. It was also suggested at the conference that the timber processing capacity in cities be completely readjusted within 2 to 3 years, that timber products be standardized as soon as possible, that timber be utilized comprehensively to serve many purposes, that the production of plywood be promoted, that in 3 to 5 years all the leftovers in timber processing in the cities be utilized, that the direct timber utilization rate be raised to over 70 percent, and that the multiple-purpose timber utilization rate be raised to over 90 percent.

[Article by Wu Zhong]

Reform of Management and Supply of Tires

China is short of rubber. More than one-half of its rubber supply is imported. At present, over one-third of total rubber consumption in China is used in the manufacture of tires. For this reason, to conserve rubber, it is necessary to reduce tire consumption. Since 1974, Jinzhou City in Liaoning Province has been employing the system of supplying tires to industrial and agricultural units only after checking their actual needs and requiring the exchange of an old, worn tire for each new one, instead of the old method of application for new tires through administrative channels. In addition, the city made great efforts to organize the business of retreading old tires. Thanks to these measures, the city succeeded in reducing the number of new tires supplied per year per motor vehicle by 65 percent, for a total savings of more than 6,800 sets of tires in 6 years under the quotas allotted by the state.

To popularize this successful experience of Jinzhou, the State Planning Commission and the State Economic Commission in 1978 issued the "Trial Measures Governing the Unified National Tire Supply and Retreading Business" to be carried out by the State Supplies Bureau. By the end of 1979, the various localities completed taking their motor vehicle inventory and provided a tire file for each vehicle. Two-thirds of the 2,500 tire supply units in the country put into practice the system of supplying tires only according to actual needs. Thanks to the adoption of this system, the volume of new tires supplied has fallen in all localities, as much as 30 percent or more in some of the provinces, municipalities and autonomous regions. At present, the supply of tires in China is sufficient in the main to meet the needs, with the exception of certain particular specifications. This marks a radical change from the shortage of tires in China in the past many years.

In view of the good results achieved by the various localities in supplying new tires and renewing old tires only according to actual needs, the State Supplies Bureau decided that, beginning in 1980, a system be put into practice on a trial

basis in Beijing, Tianjin, Shanghai, Sichuan, Hunan and Liaoning for the enterprises directly controlled and supplied by the 24 ministries of the Central People's Government to give up their tire allocation quotas and to get their tire supplies from the supplies units nearby according to actual needs.

[Article by Wu Zhong]

Material Conservation and Reclamation

In the course of readjusting the national economy and reforming enterprise management, the various economic departments, enterprises and broad masses of the people began to pay great attention to the conservation, use of substitutes for and reclamation of materials, particularly in the case of fuels, power, and raw materials. In 1979, the major industries reduced their consumption per unit product. According to statistics compiled by the metallurgical, coal, electric power, petroleum, chemical, railway, communications, light, textile, and construction material industries, for the 64 major products of 470 key enterprises, the average consumption of fuels and major raw materials per unit product per year dropped for 45 of them, or 20.3 percent, in 1979 as compared to 1978, while it rose for 19 of them, or 29.7 percent. Thanks to the reduction of consumption by a large number of products, these industries in the year 1979 saved 6.3 million tons of coal (including coke converted to coal equivalent at a given ratio), 782,000 tons of industrial oil, 326,000 cubic meters of timber, 73,000 tons of acid and alkali, and 590,000 tons of iron and steel material. The principal measures adopted to reduce consumption included the enforcement of consumption quotas, the promotion of "Energy Conservation Month," the adoption of new technology and new processing methods, and the issuance of conservation bonuses.

Great progress was achieved in conserving and using substitutes for timber. According to incomplete statistics compiled in 28 provinces, municipalities and autonomous regions, more than 1.76 million cubic meters of timber were saved in 1979 through the adoption of fiberboard, steel materials, light burned magnesite, calcereous plastic, tree branches, and other materials as substitutes for timber, the reclamation of old timber for reuse, the rental of the means of construction, and efforts to increase the yield of useful lumber from logs.

The reclamation of metals reached a historical high level in 1979. The annual ferrous scrap metal reclamation plan was overfulfilled by 6.7 percent, and the quota of reclaimed ferrous scrap metal handed over to the state by 28.7 percent, topping historical records. The proportion of reclaimed steel waste of better quality increased from 47 percent in 1978 to 56 percent, thereby enabling steel plants to use more scrap steel as a raw material.

[Article by Hu Runsong [5170 3387 2646]]

Producers' Goods Service Network Established in East China Region

In 1979, the producers' goods service companies in the six provinces and one municipality in East China adopted some new measures in their work to invigorate the supply of materials and promote production. Large quantities of overstocked and overproduced products were sold or otherwise disposed of during 1979 as a result. In Shanghai alone, these companies sold more than 170 million yuan's

worth of such goods and materials for Shanghai and the other provinces, and procured and processed many urgently-needed supplies for more than 8,000 industrial and mining enterprises. During 1979, Shanghai arranged for the processing of 290,000 tons of pig iron into steel materials for the East China Region. In August 1979, the first East China Region Coordination Conference was held in Shanghai at which the participants from many areas proposed that after fulfilling state plans they be allowed to exchange grain, edible oils and fats, and other agricultural and subsidiary products for chemical fertilizer, steel materials, coal and other raw materials, through the coordinated market.

In view of the new changes in producers' goods servicing, leaders of more than 80 producers' goods service companies in Shanghai and the six provinces of East China held a meeting in Shanghai in early 1980, at which it was formally decided to establish the East China Region producers' goods service network to speed up circulation of goods, assure the satisfaction of urgent needs in production, and improve producers' goods service work.

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CSO: 8111/0826B

MINERAL RESOURCE, TEXTILE, POWER, MACHINERY, LIGHT INDUSTRIES DESCRIBED

Beijing and Shanghai ZHONGGUO BAIKE NIANJIAN 1980 [YEARBOOK OF THE GREAT ENCYCLOPEDIA OF CHINA, 1980] in Chinese Aug 80 pp 313-335

[Text] Industry

[Article by Hong Huiru [3163 1920 1172]]

General Description

After 30 years' construction, China has built up a fairly complete industrial system with different departments and a certain technological level. The old trades have been greatly developed, while many new ones, such as the petrochemical industry, the electronic industry, the atomic energy industry and the aerospace industry, have been, or are being established. China is now able to design and produce many types of products requiring fairly complex technology to meet the requirements of economic construction and people's livelihood.

China's raw material industry is now on a fairly firm foundation. In 1979, its output of coal, crude oil, electric power, cement, steel, sulphuric acid, soda ash and chemical fertilizers, ranked among the top 10 in the world. Along with the petrochemical industry, the industries of chemical fiber, synthetic rubber, plastics and other new materials have also rapidly developed. The output of chemical fibers now ranks seventh in the world. China is also able to produce many types of metal and nonmetal materials to meet the requirements of national defense and sophisticated technology. In certain technical fields, such as the techniques of coal-dust blowing in blast furnaces, the reduction of gangue consumption in aluminum refining, and in the separation of associated metallic ores, China is unique in the world.

Instead of mainly engaging in repairs and assembling, China's machinery industry departments have become machinery manufacturing departments with a fairly high level of technology. In addition to automobiles, tractors, airplanes, 10,000-ton ships, and 5 million operations per second electronic computers, it has now developed its technology from that of purely copying from others to that of designing its own products; and from the manufacturing of single engines to the production of complete sets of equipment. It has already designed and manufactured 2,500 cubic-meter blast furnaces, rolling machines for 4,200 millimeter thick steel plates, equipment for 300,000-ton synthetic ammonia production, 300,000 kilowatt thermopower generating assemblies, and other complete sets of equipment.

The scopes of its light and textile industries are much enlarged. The sources of raw materials for these industries are increased, along with the increase of designs and varieties and the improvement of quality. In the textile industry, since the production of knitwears of mixed natural and chemical fibers began in 1961, the quantity of chemical fibers used has increased to 15 percent of the total quantity of all fibers used. Among the cotton textile products, the proportion of comfortable and economical cotton knitwears has increased from 9 percent to 18 percent in 1979; and that of worsted materials in wool fabrics increased from 50 percent in 1949 to 67 percent in 1979. Since liberation, the light industry departments have gradually produced sewing machines, cameras, wrist watches, transistor radios, TV sets, synthetic detergents, movie films, washing machines, refrigerators, tape recorders and various types of plastic products which have greatly enriched people's life.

The speed of China's industrial developments is fast even by the world standard. In 1979, the total national industrial output (computed on the basis of invariable prices in 1970) amounted to 459.1 billion yuan, being 42.5 times that of 1949 with an average annual increase of 13.4 percent. In the same period, light industry increased 21.8 times with an average annual increase of 11 percent; heavy industry increased 97.6 times, with an average annual increase of 16.6 percent. In 1979, coal output reached 635 million tons, being 19.8 times that of 1949, with an average annual increase of 10.5 percent; the output of crude oil amounted to 106 million tons, being 884.6 times that of 1949, with an average annual increase of 25.4 percent; generated power amounted to 281.95 billion kwh, an increase of 64.5 times that of 1949 with an average annual increase of 15 percent; steel output was 34.48 million tons, being 218.2 times that of 1949, with an average annual increase of 19.7 percent; chemical fertilizer output was 10,654,000 tons, being 1,775.7 times that of 1949, with an average annual increase of 28.3 percent; the output of cotton cloth was 12.15 billion meters, being 6.4 times that of 1949, with an average annual increase of 6.4 percent; the output of machine-made paper and paper board was 4.93 million tons, being 44.8 times that of 1949 with an average annual increase of 13.5 percent.

After 30 years' construction, China's industry now consists of 350,000 enterprises, while a fairly strong contingent of technicians and skilled workers has been formed. In 1979, the number of industrial workers in units owned by the whole people reached 31.09 million, an increase of 5.1 times over that of 1952. In the same period, the labor productivity of the total industrial labor force increased 1.8 times, while the average wage of industrial workers and staff members increased 0.5 times. The proportion of the total industrial output value in the combined industrial and agricultural output has risen from 30 percent in 1949 to 74 percent. The industrial level, compared with that of old China, is now vastly different. It has become an important material base for the accomplishment of the four modernizations.

After 30 years' construction, the geographical distribution of productive forces has much changed. The resources in the hinterland are being exploited and utilized, and a number of new industrial towns have appeared in various provinces (regions) of the hinterland.

Our industrial achievement has been tremendous. Yet, we have wasted some time because of the two setbacks we experienced during the early part of the second five-year plan and the Great Cultural Revolution. However, we have learned our lessons from these experiences. The wrong methods used in the past 20 years led to certain

irregularities in the industrial economic structure and the system of industrial management. For example, the relationship between agriculture, light industry and heavy industry is not proportionate, and our management efficiency and technical level are far behind those of the advanced countries. In the Third Plenum of the 11th Party Central Committee held in 1978, the policy of "readjustment, restructuring, consolidation and improvement" was introduced. Then in June 1979, under the leadership of the Finance and Economic Commission of the State Council, economic theorists and practical workers were organized to conduct investigations and study to further clarify the situation in order that the readjustment and restructuring could be guided by more specific goals. The present irrational economic structure will then be replaced by a rational one, and the present system of industrial management, characterized by excessive administrative control and low efficiency will be replaced by an efficient system of administration according to economic laws. China's industry will then be equal to the responsibility of a leading role in the national economy in accomplishing the four modernizations.

[Article by Chen Huanhuan [7115 2970 2970]]

Industrial Reorganization under the Principle of Specialization and Coordination

To suit industrial development in China during the 1960's some industrial departments formed more than 10 national and local specialized companies (or general plants) on an experimental basis and gained certain success. When the "gang of four" were on the rampage, these experiments were criticized as being "capitalist," and the specialized companies (or general plants) were abolished.

After the smashing of the "gang of four" and along with the national economic recovery and industrial development, some departments, then under diversified leadership and decentralized management, became increasingly incompatible with serialized mass production, and the localities and enterprises raised the question of organizing specialization and coordination in production from different points of view according to their own conditions. In his summing-up report delivered before the Third National Agricultural Mechanization Conference on 26 January, Vice Premier Yu Qilui [0151 4428 6849] proposed that the farm machinery industry should be reorganized in various provinces throughout the country according to the principle of specialization and coordination. The First Ministry of Machine Building then held a special conference in Lanzhou for this purpose.

In July 1978, the Party Central Committee relayed to the lower levels the "Decisions of the CCP Central Committee on Some Questions Concerning the Acceleration of Agricultural Development (Draft)" (called the "30-Point Decision on Industry" for short), further clarifying the need to reorganize industry according to the principle of specialization and coordination in order to accelerate industrial development. Later, some regions in Jiangsu and Sichuan and some industrial departments actively carried out industrial reorganization according to this principle, and did a great deal of work in this direction.

In the summer of 1978, the State Economic Commission, in consultation with Beijing, Shanghai and Tianjin Municipalities and Liaoning Province first set up experimental points for the sake of accumulating experiences. By the summer of 1979, action was taken mainly along the following lines:

first, investigation on the local situation of industrial development and the existing problems so as to ascertain the orientation of industrial reorganization; second, readjust the relations of affiliation among some enterprises so that each trade or undertaking will be under the unified leadership of its own department in charge; third, establishing a number of specialization companies (or general plants); fourth, further planning and reorganization inside the companies (or general plants); and fifth, the trial operation of a small number of companies (or general plants) in the manner of enterprises.

For more than 1 year, these six provinces and municipalities have reorganized or formed their specialization companies according to the principle of specialization and coordination with certain success.

(1) The situation of diversified leadership and decentralized administration has begun to change and a large number of scattered enterprises have been organized to promote production under unified management and direction. For example, after the reorganization of the eight production factories originally affiliated to six districts, counties and bureaus in the sewing machine trade, their output in the first half of 1979 exceeded that of the same period in 1978, or before the reorganization, by 57 percent.

(2) Unified planning and rational division of work have initially changed the orientation of production for some plants, developed the production of key items and goods in short supply for the market, and improved the quality of products. The volume of export trade has also increased.

(3) Specialized production was organized according to the special characters of products, spare parts and accessories and work process, and the potentials of enterprises were tapped to improve the economic results and to promote the enterprises' technical transformation.

(4) Enterprise management was strengthened and some backbone technicians were trained.

In coordination with industrial reorganization, the problems of prevention and treatment of the "three wastes" and the practice of economy among some plants have been solved.

Moreover, in recent years, some provinces, municipalities and autonomous regions (including Beijing, Shanghai, Tianjin, Jiangsu, Shandong, Gansu, Yunnan, Guizhou and Hubei) have carried out investigations followed by experimental reforms in the rational organization and dispatching of vehicles in transportation. These experiments have been a success.

Main Industrial Outputs of China

A 产 品 Items	单 位 Unit	1949 年 Year	1952 年 Year	1978 年 Year	1979 年		
					A 产 品	比上年增长 %	1949 年为 100
1. 煤	亿吨	0.32	0.66	6.18	6.35	2.8	1,904
2. 原油	万吨	12	44	10,405	10,615	2.0	88,454
3. 发电量	亿度	43	73	2,566	2,819.5	9.9	6,554
4. 生铁	万吨	25	193	3,479	3,673	5.6	14,692
5. 钢	万吨	15.8	135	3,178	3,448	8.5	21,821
6. 木材	万立方米	567	1,120	5,162	5,439	5.4	959
7. 水泥	万吨	66	286	6,524	7,390	13.3	11,197
8. 化学纤维	万吨	0.6	3.9	869.3	1,065.4	22.6	177,567
9. 发电设备	万千瓦		0.2	53.3	53.7	0.8	
10. 机床	万台	0.16	0.6	483.8	621.2	28.4	
11. 汽车	万辆		1.37	18.30	14.0	-23.5	8,750
12. 拖拉机	万台			14.90	18.6	24.8	
13. 铁路机车	万台			11.35	12.55	10.6	
14. 铁路货车	万台			32.42	31.75	-2.1	
15. 铁路客车	万台			28.46	32.63	14.7	
16. 棉纱	万吨	32.7	65.6	238.2	263.5	10.6	80
17. 棉布	亿米	18.9	38.3	110.3	121.5	10.2	64
18. 机制纸	万吨	11	37	439	493	12.3	4,482
19. 糖	万吨	20	45	227	250	10.1	1,251
20. 盐	万吨	299	495	1,953	1,477	-24.4	494
21. 卷烟	万箱	160	265	1,182	1,303	10.2	814
22. 电视机	万台			51.73	132.85	156.8	
23. 自行车	万辆	1.4	8.0	854.0	1,009.5	18.2	72,091
24. 缝纫机	万台		6.6	486.5	586.8	20.6	
25. 手表	万只			1,351	1,707	26.4	

• 化肥 100% 有效成分计算 Chemical fertilizer based on 100% effectiveness.

Key:

- | | |
|--|--|
| A. Output | 12. Automobiles in 10,000 units |
| B. Increase over the previous year in percentage | 13. Tractors in 10,000 units |
| C. Figure of 1949 is 100 | 14. Walking tractors in 10,000 units |
| 1. Coal in 100 million tons | 15. Chemical fibers in 10,000 tons |
| 2. Crude oil in 10,000 tons | 16. Cotton yarn in 10,000 tons |
| 3. Generated power in 100 million kwh | 17. Cotton cloth in 100 million meters |
| 4. Pig iron in 10,000 tons | 18. Machine-made paper and paper boards in 10,000 tons |
| 5. Steel in 10,000 tons | 19. Sugar in 10,000 tons |
| 6. Timber in 10,000 cubic meters | 20. Salt in 10,000 tons |
| 7. Cement in 10,000 tons | 21. Cigarettes in 10,000 cases |
| 8. Chemical fertilizers in 10,000 tons | 22. Television sets in 10,000 units |
| 9. Insecticide in 10,000 tons | 23. Bicycles in 10,000 units |
| 10. Power generating equipment in 10,000 kilowatts | 24. Sewing machines in 10,000 sets |
| 11. Lathes in 10,000 sets | 25. Wrist watches in 10,000 pieces |

Five Documents Issued by the State Council on Restructuring the Management of State-Operated Enterprises

In the Communiqué of the Third Plenum of the 11th CCP Central Committee, it was pointed out that "one of the serious shortcomings in the structure of economic management in our country is the overconcentration of authority, and it is necessary boldly to shift it under the guidance from the leadership to lower levels so that the local authorities and industrial and agricultural enterprises will have greater power of decision in management under the guidance of unified planning... These measures will bring into play the initiative, enthusiasm and creativeness of four levels, the central departments, the local authorities, the enterprises and the workers, and invigorate all branches and links of the socialist economy." Accordingly, the State Council issued the following five documents on 13 July 1979:

1. "Certain Regulations Concerning the Expansion of the Decision-Making Power in Business Management by State-Run Industrial Enterprises": Under these regulations, the enterprises has the power to formulate and carry out supplementary plans, provided the fulfillment of state plans is guaranteed, and the state will gradually enforce the system of profit-sharing with the enterprises. The depreciation rate of fixed assets will be gradually raised and the system of payment for the use of fixed assets and the granting of full credit for circulating capital will be adopted. The enterprises will be encouraged to develop new products and to increase their export trade. They will choose their own workers and staff members in accordance with the state's labor planning, and measures will be taken to reduce their extraneous burdens. At the same time, the task which the enterprises must fulfill should be clearly spelled out so that the enterprises can effectively exercise their decision-making power in dealing with manpower, money, materials, supply, production and marketing. Their work should be guided and regulated by the state's unified planning, unified policy and unified disciplines.
2. "Regulations Concerning the Practice of Profit-Sharing by State-run Enterprises": According to these regulations, all enterprises practicing independent business accounting and making profits can retain a certain percentage of these profits to be used for building up funds for the development of production and for the workers' welfare and rewards so as to strengthen the enterprise's economic responsibility and to combine the interest of the state, the enterprise, and the individuals. This will help arouse the enthusiasm of the enterprises and their workers and staff members in doing a good job of economic accounting and in tapping the potentials for increasing production and in practicing economy in order to accumulate more funds for the state.
3. "Provisional Regulations Concerning the Levy of Fixed Assets Tax from State-run Industrial Enterprises": It has been decided that the system of free use of fixed assets has to be changed and the enterprises can no longer be free from economic responsibility in the use of state assets. Holding industrial and communications enterprises responsible for the fixed assets will encourage them to improve their management and business results.
4. "Provisional Regulations Concerning Raising the Depreciation Rate of the Fixed Assets of Industrial Enterprises and Improving the Methods of Using Depreciation Funds": Starting from 1980, the depreciation rate of fixed assets for industrial and communications enterprises will be gradually raised on the basis of increasing profits, in order to help the old enterprises tap their potentials and renovate and

transform their equipment and to give full play to the role of the existing enterprises in accelerating the national economic development.

5. "Provisional Regulations on the Trial Granting of Full Credit for Circulating Capital": To change the present phenomenon of diversified control of the circulating capital and the present situation where the size of the circulating funds used by an enterprise is not related to the economic benefits of the workers and staff members of the enterprise, the People's Banks will grant full credit to the enterprises for circulating funds. This will help strengthen the system of inspection and supervision by the bank over the enterprises' business activities and further encourage the enterprises and their workers and staff members in the effective control of their circulating funds.

Many provinces, municipalities and autonomous regions have already begun their experiments according to the regulations contained in these five documents.

Experiments in the Expansion of Decision-Making Power for the Enterprises

At the First Session of the Fifth National People's Congress, Premier Hua Guofeng pointed out in his "Report on the Work of the Government": "We have to conscientiously sum up our experiences and gradually reform and perfect the system of enterprise management." In the past several years, many localities have adopted measures to readjust and restructure the original system of management and to expand the decisionmaking power of enterprises. In October 1978, Sichuan Province first selected the Chongqing Iron and Steel Company, the Ninjiang Machine Tool Plant, the Sichuan Chemicals Plant and the Xindu County Nitrogenous Fertilizer Plant, and two other enterprises for the experiment, and gained some success. By the beginning of 1979, the experimentation had developed to include 100 enterprises affiliated to the Ministries, the province, municipalities, prefectures and counties. The province also formulated tentative measures embodied in 14 Articles concerning, among others, the tryout of profit sharing, raising the ratio of the enterprise's share of funds allowed for the depreciation of fixed assets, granting full credit for circulating capital, improving the regular bonus system, sharing foreign exchange, strengthening the power of the enterprises in offering rewards and meting out punishment and in the appointment and removal of personnel as they think fit. Thus the power of the experimental enterprises was further expanded. Similar experiments were carried out among some enterprises in other provinces, including Yunnan and Anhui.

To step up the experimentation, the State Council issued five documents in July 1979, concerning the expansion of decision-making power for the enterprises, and calling on the relevant departments in the provinces, municipalities, regions and the central authorities to select a small number of enterprises for the experiment. These experimental enterprises must have been consolidated under strong leading bodies and have fairly regular production procedures and management. The State Science and Technology Commission also selected eight enterprises in Beijing, Tianjin and Shanghai for the experiment.

As the end of 1979, there were nearly 2,000 industrial enterprises in 21 provinces, municipalities and autonomous regions engaged in the experimentation of expanded decision-making power and the profit-sharing system. These experimental enterprises amounted to 7 percent of the total number of industrial enterprises included in the state budget, and their industrial output value amounted to 10 percent of the combined total of these industrial enterprises.

Remarkable economic achievements have been won in the experiments on the decision-making power of the enterprises. First, it has promoted production by not only increasing the total output value but also raising the quality of products. The system of profit-sharing has resulted in benefits for the state, the enterprises, and the workers and staff members. Furthermore, since the conditions are favorable for technical transformation through self-reliance, it arouses the enthusiasm of the enterprises in tapping potentials and renovating and transforming their equipment, and in expanding their productive capacity. Because of their heavier responsibility, the enterprises have attached greater importance to their management and economic accounting.

To make the experimentation an even greater success and to sum up the experiences, the State Economic Commission issued a notice by the end of 1979 to the effect that the experiment would not be further expanded in 1980, and that starting from 1980, the share of profits for the enterprises should be calculated according to the excess over a certain basic amount of profit instead of being based on the total profit.

[Article by Liu Chunqin [0491 2504 0530]]

State Economic Commission Held Research Classes on Enterprise Management

To meet the requirements of socialist modernization, the State Economic Commission under the State Council has since March 1979 held research classes on enterprise management for the cadres. Among the students of these classes were directors and vice directors of the economic committees of various provinces, municipalities and autonomous regions as well as the main industrial cities; the directors of various departments and bureaus in charge of the enterprises in the industrial and communications sectors, and the directors of large and medium-size plants. Beginning from the fourth term of the research classes, the chairmen and vice chairmen of trade unions in various provinces, municipalities and autonomous regions also participated. Therefore, the name of these classes was changed to "Research Class on Enterprise Management of the State Economic Commission and the All China Federation of Trade Unions."

The course of these research classes included these four different aspects:

1. The ideological line, mainly related to study of the question of practice as the sole criterion for the testing of truth, and of the relevant speeches by the leaders of the central authorities;
2. Economic theories, mainly the theory of socialist commodity production, such as giving play to the mechanism of the market and the coordination of the regulative role of planning and the market with great importance attached to the former;
3. Enterprise management mainly consisting of its general scope, planned management, quality control and economic accounting; and
4. Industrial management, mainly consisting of its general scope, the industrial structure, the distribution of productive forces and the energy resources.

In the research classes, the students have to mainly rely on self-study, while in dealing with important questions, well-known experts and scholars at home or abroad

are invited to give lectures. Regular group discussions, inspection visits to plants are also organized to deepen the students' understanding of these problems and to improve the result of their study.

Each term lasts approximately 2 months, and by the end of 1979, four terms had been held, and some 470 persons trained.

The provinces, municipalities, autonomous regions and the various industrial and communications departments also attached great importance to the training of the cadres who are on active duty. According to incomplete statistics compiled by 29 provinces, municipalities and autonomous regions and 18 departments and general bureaus of the industrial and communications sector, more than 460,000 persons, including some 153,000 leading cadres at or above the county levels, participated in various types of economic management training classes in 1979. The Jiangsu Provincial Economic Committee has already sent more than 12,000 economic management cadres at or above the county level for rotational training. In Shaanxi, 30 percent of the cadres at the same levels attended the economic management training classes.

All-out Activities of China Enterprise Management Association

The China Enterprise Management Association was established in Beijing on 3 March 1979, with one each president and adviser and nine vice-presidents. The president was Yuan Baohua [5913 1405 5478], Vice Minister of the State Economic Commission, while Deng Liqun, [6772 0500 5028], Vice President of Chinese Academy of Social Sciences, served as adviser. The highest organs are the Council and the Standing Council. There are 61 council members, including 41 standing council members. The secretariat is responsible for the day to day operation of the association, and the secretary general was Zhang Yanning, [1728 1750 1380], director of the Economic Research Bureau. The China Enterprise Management Association consists of 63 member groups which are mainly branch associations, large back-bone enterprises, the finance and economic professional units and economic research units of universities, technical colleges; 132 individual members, including 51 professors, research workers, accountants and engineers from all 29 provinces, municipalities and autonomous regions. Branches of this association have already been opened in Beijing, Tianjin, Shanghai, Liaoning and Lanzhou. These five branch associations have a total of more than 200 council members, more than 500 group members and 1,000 individual members.

The function of the China Enterprise Management Association is to improve enterprise management through the activities of this association in order to serve China's four modernizations. The specific goals of the association are as follows:

1. To translate and publish books and periodicals and to supply information on the situation of enterprise management at home and abroad. The Enterprise Management Publishing House, affiliated with the China Enterprise Management Association, will actively and translate books and periodicals in a planned way to supply information on the experiences, methods and means used in enterprise management at home and abroad, and to actively promote the improvement of business management.

2. To train managerial cadres. Besides holding unscheduled research and academic exchange meetings and inviting Chinese and foreign experts to give academic talks, the association will also help the department

research classes for the leading cadres at various levels. These activities will help raise the professional knowledge and technology of the managerial cadres and the management level of Chinese enterprises.

3. To sum up the experiences of enterprise management and to participate in the experimentation of management restructuring. The association will organize its council members and members as required to conduct in-depth investigations and study of the enterprises, to help the enterprises sum up their experiences, and then provide active guidance in the experiment on their management restructuring.

4. To conduct international exchange activities. The China Enterprise Management Association will do everything possible to establish contacts with the enterprise management organizations and groups in the world, and through the exchange of visits, inspections, advanced study, supply of data and other programs for the exchange of experiences in enterprise management, strive to apply and popularize certain methods of scientific management which have proved to be effective.

The China Enterprise Management Association made all-out efforts in promoting these activities in 1979.

Democratic Election of Workshop Cadres

Speaking before the Ninth National Trade Union Congress in October 1978, Vice Premier Deng Xiaoping said: "Workshop directors, section chief and group heads in every enterprise must in future be elected by the workers in the unit." This is an important measure for the broad masses of workers to exercise their power as masters of the enterprises under the socialist system of public ownership.

To gain experiences in the democratic election of workshop directors, experiments have been carried out since 1978 among the enterprises in some provinces and municipalities. There are 48 enterprises in the system of the Beijing Municipal Building Material Bureau, with a total of more than 230 workshops. Leading cadres for these workshops have all been appointed through democratic elections.

The democratic elections of workshop cadres in the experimental enterprises were carried out under party leadership, and the various organizational jobs were undertaken by the political organizations of the party committee in collaboration with the plants' trade unions. The role of the trade unions was thus given full play.

The methods and procedures of democratic election of workshop cadres are as follows:

1. Conduct surveys among the workers to ascertain the ideology of the cadres and workers;

2. Carry out effective ideological work and bear in mind the existing problems so as to familiarize the cadres and workers with the significance, purpose and specific methods of democratic election.

3. Organize the workshop directors to report on their work before the workers and staff members of the units. While affirming the achievements, they should also reveal the shortcomings and carry out sincere self-criticism for their own defects and mistakes. Then the masses should be mobilized to evaluate the cadres with the method of "dividing one into two." These activities will give the masses an

opportunity to understand the cadres thoroughly, to criticize them, and at the same time help those who have erred to mend their way and to win the workers' understanding.

4. Explain to the workers and staff members about the conditions and responsibility required of the candidates for workshop cadres and let the masses nominate the candidates with no strings attached by the plant leadership.

5. Carry out election with secret ballot and with more candidates put up than the cadres to be elected.

6. Conduct ideological work on the successful as well as the unsuccessful candidates. The successful ones should be reminded that they should live up to the workers' trust and expectation by doing their work well, while the unsuccessful ones should take a proper attitude toward their defeat through an orderly transfer of their duties and then take up their new jobs cheerfully.

As proved by the experiments, the fear that democratic election of workshop cadres would create chaos and adversely affect production following a complete reshuffle of cadres is groundless. According to investigations on the experiments carried out in Beijing, Shandong, Heilongjiang, Ningxia and 11 other provinces, municipalities and autonomous regions, 87.4 percent of the cadres were reelected, and the change only affected 12.6 percent of them and most of the unsuccessful candidates were old and weak, lacking organizing ability, or seriously divorced from the masses.

In the units of all localities where democratic election of workshop cadres by the workers has been carried out, the enthusiasm of the workers in participating in the management of the enterprises is further aroused, and the elected cadres' mass sentiment and vocational devotion are further strengthened. Thus the relationship between the workers and the cadres has become closer while the management and production of the enterprises, where such elections have taken place, have all improved in varying degrees.

[Article by Liu Yuanzhang [0491 3293 1728]]

Quality Control Strengthened

Great importance has been attached to quality control since the downfall of the "Great Leap Forward." In April 1977, the State Council held a national conference to learn from Daqing and called on enterprises throughout the country to fight a mass battle of quality control. In a meeting held by the First Ministry of Machine Building in September of the same year for exchanging experiences in raising production quality and consolidating enterprise management, a proposal was made to start a "trustworthy product quality" campaign. In August 1978, the First Ministry of Machine Building enforced the "Three Guarantees" (meaning the guarantee of quality, replacement and return) beginning with farm machinery. In July 1978, the "Joint Decision on Industry" was publicized and Point 19 stressed the need to pay great attention to quality, varieties and specifications. The national conference to learn from Daqing held in the months of May, June and July 1978 in the textile industry, the light industry and the machinery industry, all called for the consolidation of enterprises and the raising of product quality. In 1979, the work of quality control continued to make headway.

The Launching of the "Quality Month"

In July 1978, the State Economic Commission decided that September be designated as "Quality Month" every year. In the first "Quality Month" meeting broadcast by the radio and the TV network in September 1978, Vice Premier Kang Shi'en of the State Council mentioned the specific requirements of the "Quality Month" in his speech as follows: 1. Deepen the criticism of the crimes committed by the "gang of four" in causing the deterioration of quality; 2. Stress the harms which poor quality would bring; and 3. Make a real effort to set up rules and regulations for the basic work of quality control.

In April 1979, the State Economic Commission issued a notice on the plans for launching the second "Quality Month." In August of the same year, the First National Representative Conference of Quality Control Groups was held. The representatives reviewed their achievements in quality control during the previous year and pointed out that since the launching of the "Quality Month" campaign in 1978, mass quality control on the industrial and communications front of China had made great progress, and quality control groups had appeared in large numbers. In the machinery industry departments alone, more than 5,100 teams and groups were named "trustworthy product quality" units. Thanks to strengthened quality control, the quality of products among various trades and undertakings has steadily risen. In the second National "Quality Month" Conference held in the People's Great Hall of the Capital, and broadcast and televised in September of the same year, Vice Premier Kang Shi'en said that after this "Quality Month," all industrial products should within the following year be able to conform to the State's quality standard, feature all the brand-name products, and catch up with or surpass the advanced levels at home and abroad. In accordance with the "Regulations of the People's Republic of China for Awarding Fine-Quality Prizes" issued by the State Economic Commission with the approval of the State Council in June 1979, the Conference awarded 51 gold medals and 121 silver medals for fine-quality products. These were the first national awards ever given for fine-quality products.

Experiment of All-Round Quality Control

In May 1977, the experiment of quality control in the Qinghe Woolen Textile Mill of Beijing and the Beijing General Internal Combustion Engine Plant was a success. Then in May 1978, a group of the First Ministry of Machine Building of China went to Japan for inspection on invitation by the Komatsu Manufacturing Center of Japan. Later, representatives of the Komatsu Manufacturing Center visited the Beijing General Internal Combustion Engine Plant for an exchange of technology in quality control. In July of the same year, the First Ministry of Machine Building held the first term of study classes on all-round quality control. This was followed by similar study classes and experiments in various localities and departments throughout the country.

In 1979, the number of experimental units in all-round quality control was increased. During the "Quality Month," the People's Central Broadcasting Station carried a series of talks on all-round quality control. By the end of 1979, more than 1 million people had participated in this type of study class, and, except for Tibet, all provinces, municipalities and autonomous regions had their experimental enterprises which numbered more than 870. In August of the same year, a China Quality Control Association was formed in Beijing. The president of the council was Yue Shilian [1921-1907-1017], Vice Minister of State Economic Commission and concurrently Director of the General Standardization Bureau.

Rules and Regulations of Standardized Quality Control Promulgated

Following the Working Conference of National Standardization held in May 1979, the State Council promulgated the "Rules and Regulations Concerning Standardized Control in the People's Republic of China" in July along with the issue of a notice saying that standardization was an important means of organizing modernized production, and an important component of scientific management. It was also said that a successful standardization could play an important role in the high-speed development of the national economy, in improving the quality of industrial and agricultural products and of engineering construction, in raising the labor productivity, and in fully utilizing the state's resources. According to the rules and regulations, products which do not measure up to the standard cannot be included in the output as a fulfillment of state plan; their output value cannot be accounted for; and their shipment from the factory is not permitted. Should any violation of the rules and regulations of standardization produce serious consequences or major accidents, the person responsible for the violation will be criticized, disciplined, fined or even legally persecuted according to the extent of the damage. Should any enterprise fail to produce according to the standard or should it produce goods of inferior quality, the government has the right to refuse to issue certification. In serious cases, the government has the right to recommend to the departments in charge financial sanctions against the enterprise or its personnel concerned, or the closure of the enterprise for consolidation. The system of using fine quality as a symbol will be enforced and the policy on fine quality will be implemented. Those who have made important contributions in winning outstanding achievements in the production of standardized goods should be rewarded. The implementation of these rules and regulations, and the "Certain Regulations Concerning the Expansion of the Decision-Making Power in Business Management by State-Run Industrial Enterprises" issued by the State Council in July, and the policy of combining the regulative role of planning with that of the market has given a strong impetus to the improvement of enterprise management, the quality of products and the output of production and practice of economy.

Mineral Reserves

(Article 14, by the Ministry of Geology)

Development and Geological Work

China is a large area with wide open seas, variegated geological structure and rich mineral resources. Since the founding of the People's Republic in 1949, the painstaking efforts of the geological workers throughout the country, in the field survey and research have made great progress. The number of mineral products, whose deposits have already been verified, and the amount of reserves under industrial evaluation have been increased from 28 in 1949 to 140 in 1974. These varieties include ferrous metal, nonferrous metal, chemical materials for metallurgy, fuel mineral products, electrical materials, building materials and other nonmetals. The natural gas, oil, geothermal energy, China is one of the few countries in the world with a complete assortment. The deposits of iron, coal, oil, bauxite, uranium, lead, zinc, tungsten, tin, molybdenum, and so on are abundant. China has the largest reserves in the world and second in the world of coal, oil, bauxite, uranium, lead, zinc, tungsten, tin, molybdenum, and so on after 1955.

we have taken the wrong path in geological work because of our violation of the economic laws and because of the interference and disruption over a long period by Lin Biao and the "Gang of Four." Geological work is still one of our weak links. The geological departments have changed their methods since the smashing of the "Gang of Four," and proceeding from realities, they boldly revised the key points for a general geological survey and prospecting. Notable success was achieved in a comparatively short time. In a conference of geological bureau chiefs throughout the country held in January 1980, a special discussion was conducted on the question of further implementing the eight-character policy of the national economy along with a call for the vigorous strengthening of the energy resources, agriculture, light industry, building material industry, chemical industry and the survey and prospecting for mineral resources required for the foreign trade. Energy resources were to occupy the first place in geological work, and a survey should also be conducted for the development of chemical fertilizer resources. The survey and prospecting of nonferrous metals and rare metals should be strengthened, and concentrated efforts should be made in ocean geological work so that a breakthrough could be made in the locations where geological conditions are favorable. At the same time, the geological rank should be consolidated along with the restructuring of the management in order that geological work will actually pave the way for construction and accelerate the accomplishment of the four modernizations by discovering more and better mineral resources.

Coal and Petroleum

Coal. Deposits totaling 500 billion tons have been verified. Anthracite and bituminous coals which include long-flame coal, gas coal, rich coal, coke, lean coal, poor coal, loose coal, brown coal and bone coal, forming a fairly complete assortment, are spread out all over the country. Coal fields are mostly concentrated in the northern part of China including North China, the Northwest and the Northeast. Among them, the one in Shanxi Province is most important, because China's industrial coal is mainly obtained from here. The coal formations in North China mainly belong to the Permian system of the Palaeozoic Era. In the Northwest and Northeast, they mainly belong to the Jurassic Period. In the southern part of China, they mainly belong to the Permian system. The exploitation of coal resources began very early in China, the principal coal mines being located in Datong of Shanxi, Yituan and Tangshan of Hebei, Fushan and Bengxi of Liaoning, Hegang of Heilongjiang, Beitou of Shaanxi, the northern slope of Tianshan Mountains in Xinjiang, Pingdingshan of Henan, and Huainan and Huaiabei of Anhui. There are also important coal mines in Guilin and Yunnan.

Petroleum. China has won great achievements in geological work with regard to petroleum in the past 30 years. In the early 1950's, a number of oilfields were discovered in the western part of China, including Gansu, Qinghai, and Xinjiang. In the late 1950's, the Daqing Oilfield was discovered in Heilongjiang; Fuyu Oilfield was discovered in Jilin; and a number of oil and gas fields were discovered in Sichuan. In the 1960's, successive discoveries of new oil and gas fields were made in Beierling, Hebei, Lianting, Dabel and so forth. At the same time, oceanic geological work was carried out in the search for oil resources. Since the 1970's, considerable work has been made in discovering oil resources from Qijia.

Significant and successful results are the way down to the South China Sea. A number of oil and gas fields have been discovered in northern Hainan, Shaanxi, Gansu, Ningxia, Qinghai, Hunan and the Beibu Bay. In recent years, some industrial oil gas currently were discovered in the Tarim Basin of Xinjiang, in northern and northeastern Sichuan, in Beilun Bay (Jiankin Gulf) and the estuary of Zhujiang River (Pearl River).

Metal Mines

Iron Mines. China's iron mines of various sizes are widely spread out over various provinces (regions). Iron mines of the Anshan type (the sedimentary metamorphic type) are the main type in China, and are distributed over the area from Anshan of Liaoning to Jidong of Hebei. This type of mineral can be easily extracted, although their ores are not of a high grade. In Sichuan, there are large mineral beds of vanadium, titanium and magnet spread out in Panzhihua. Besides iron, such important components as vanadium and titanium can be recovered. In Hubei, the "Daye" type of iron mine (formed by the interaction of gas and heat along the contact edges of different layers) in Daye has long been well-known. There are also similar mines in the area to the east of this mine. In the northern and southern parts of China, there are also many iron mineral beds of the sedimentary type, and the mineral layers are mostly of the Sinian system in the north and the Devonian system in the south. In recent years, attention has been drawn to the iron and siderite mineral beds, connected with volcanic activities, which will improve the prospects of new discoveries. In 1979, the total discovered iron deposits in the country exceeded 40 billion tons.

Manganese. China's manganese deposits are among the largest in the world. The origin of these mines dates back to the Sinian and the Triassic Periods, or mostly the Sinian and Devonian Periods. The known manganese mines are located in the central-southern region, especially in Guangxi.

Chromite. These mines are spread out over Northwest China, and the discovered ones are mostly in the geosyncline region of the late Palaeozoic Era. The mines in the east are not large, but larger ones have been discovered in Xizang in recent years.

Copper. China's copper mines are in the top rank in the world. They are spread out mainly in the valleys of the middle and lower reaches of Changjiang River and in the southwestern region. In Northwest and North China, there are also fairly large copper deposits. China has generally all the known varieties of copper in the world.

Lead and Zinc. The mining and utilization of lead and zinc has had a long history in China. These mines are widely spread out, with the ratio of lead higher than that of zinc. From them, some useful components, such as silver, can be recovered. Few lead and zinc mines were discovered in the west of Qinling and the western part of Yunnan Province in 1979.

Bauxite. The bauxite mineral beds, which are related to the coal of the Palaeozoic Era and form quite a large proportion of China's mineral resources, are mainly located in Shanxi, Henan and Guizhou.

Tungsten. China's tungsten mines are in the top rank in the world, and are mainly located in Jiangxi and Hunan to the south of the Nanling Mountain Range. Mining has been carried out in these places for many years, but the reserves are still considerable. Other tungsten mines with a promising future have also been discovered in North China and the Northeast Region.

Tin. Tin deposits also rank first in the world. The Gejiu Tin Mine in Yunnan has long been well-known. There are also tin mines in Guangxi, Hunan and Jiangxi.

Molybdenum. China's molybdenum mines rank second in the world and the mineral beds are distributed mainly in the north. With the exception of the silicate type, several of the porphyry type have been verified. The mineral beds in the north of Qinling Mountain and Funiushan Mountain are among the important discoveries.

Nickel. In the late 1950's, an extra large copper-nickel mine, which basically marked a new phase in China's mining industry, was discovered.

Antimony. China's antimony mines are well-known and their reserves are the largest in the world. Approximately one half of the world's antimony reserves are in China. In addition to those located in Hunan, antimony mines have also been discovered in the northern part of China.

Mercury. China's deposits of mercury is also in the top rank of the world. They are mainly located in the "mercury belt" of Hunan and Guizhou, and Guizhou is particularly known as the "Province of Mercury." In recent years, mercury mines of high value have also been discovered in the Qinling Mountainous Region.

Gold. Gold mining has a long history in China. Panning for gold was carried out along the coasts even in ancient times. Gold mines are located in various parts of China, but more concentrated in the Northeast, East China, and the Qinling and Funiushan regions. Gold resources are also rich in Taiwan Province where the famous Jiaoguangshi Gold Mine is located.

Platinum. In the late 1960's, platinum mineral beds related to chromite and nickel mines were discovered in China. In the past several years, many nonferrous and precious metal mineral beds containing associated platinum ores were discovered. In addition, pure platinum mineral beds have also been discovered.

Rare Earths. Rare-earth mineral beds, on which China has done much meticulous work, are mainly intergrowths with iron mineral beds. These beds are large and have rich reserves with light rare earth as the predominant element. Some of them are produced in the phosphorus-forming beds. The known ones are cerium, lanthanum, praseodymium, neodymium, samarium, europium, yttrium, and so forth.

Nonmetallic Minerals

Phosphorus. China is rich in phosphorus resources. There are many such mineral formations, the main ones being of the Sinai and Cambrian Periods. Those of Sinai Periods, located in Hubei, Hunan and Guizhou form one of the important phosphorus basins of the world. Those of the Cambrian Period are also quite extensive, being mainly concentrated in Yunnan, Guizhou and Sichuan in the Southwest.

Magnesite. The magnesite mine in Liaodong Peninsula is quite a large one. China ranks third in the world in magnesite production. Fairly large new magnesite mineral beds were discovered in Sichuan, Shandong and Hebei in recent years.

Sulphur. The mineral products from which sulphur can be extracted in China are calcinized iron, nonferrous metal, oil and gas associated with sulphur, gypsum, etc., and so forth. At present, China mainly uses iron pyrites and nonferrous metals associated with sulphur. The verified reserves of iron pyrites are now in the top rank of the world. These mines are mainly located in Guangdong, Anhui and Heilongjiang. The majority of these mines were formed from pyrites of the

volcanic rock system and others were formed by the interaction of gas and heat in sedimentary metamorphism. In addition, there are large deposits of sedimentary pyrite.

Mica. The verified mica mines are located in Xinjiang, Sichuan and Nei Mongol. The significant mineral ores are imbedded among the gneiss and schists, and belong to the granite-pegmatite type. Their origin is mostly related to the infiltration of acid into the rocks during the Variscan Period. The main mica producing area is the Altai Region in Xinjiang.

Asbestos. China's asbestos mines are mainly located in Qinghai and Sichuan, and the important types are the serpentine asbestos related to the ultra basic rocks. In addition, there are in the eastern part of China certain asbestos mines among the carbonic acid rocks which contain magnesite, but these mines are not large.

Kaolin. The name "kaolin" [meaning high mountain range] is derived from the place of its production. The kaolin produced in Jiangxi has a long history and is famous at home and abroad. These mines are located all over China, but the principal ones are in Jiangxi and Hunan.

Graphite. These mines are distributed in north China, the northeast, and Shandong Province, and mainly belong to the sedimentary metamorphic type. The mineral beds are located among the ancient gneiss, schists and Dalong rocks. The graphite looks like fish scales and are of fine quality. The graphite produced in Shandong is selling well abroad. New graphite producing areas have been found in recent years.

Gypsum. Except for the northeast, gypsum is produced in various parts of the country. The mineral layers mainly belong to the Triassic and the Tertiary Tertiary. The Yangling gypsum produced in Hubei has a long history and is of fine quality. In recent years, a large hard gypsum formation was discovered among the Tertiary layers. In 1979, in particular, a large gypsum bed was discovered in Shaanxi.

Sodium Bentonite. This has been recently discovered in Heilongjiang, Xinjiang and Tibet.

Various stones and jade. Nephrite jade is famous at home and abroad. In Henan, there is the Nanyang jade. In Liaoning, the Nuyuan jade in Ningyuan, the nephrite, which is called Uygurian stone; in Hubei, the Turquoise; in Hunan, the Huguang (Huguang's nephrite) stone; and in Fushan, the black amber. In addition, there are crystals, smoke-crystals, purple crystals and other products in various parts of the country. In Liaoning, Hunan and Shandong, there are diamonds. Nephrite jade is also called "fengchi."

Coal Industry

[Liyi] is the Basic Fengchi (7836 1144 0443)

General Description

China has rich coal resources which form a complete distribution and are concentrated among the 29 provinces, municipalities and autonomous regions. The coal resources of these areas have their own coal resources in varying amounts. By the end of 1979, the verified coal reserves amounted to some 600 billion tons with a total of about 100 billion tons.

635 million tons or an increase of 2.8 percent over that of 1976. China occupies the third place in the world in coal production. Out of this output, some 54 million tons of dressed coal are used to support industry. The quality has been improved. The commodity coal, under the system of unified distribution, contains an average of 22.5 percent of coal ash and 0.64 percent of gangue. These contents have been lowered by 0.86 percent and 0.26 percent respectively as compared with those of 1978. Its quality in 10 provinces and 35 coal administration bureaus has been raised by one grade since 1978.

China has a long history of coal industry. However, because of its weak economic foundation, its annual output has been only about 32 million tons, 10th in the world, up to 1949, the year of national liberation, despite its rich resources. Since liberation, however, coal industry has undergone great development. By 1979, there were more than 2,000 coal mines operated at or above the county levels, by more than 4 million workers and staff members. There are 11 large mines with annual outputs above 10 million tons and 13 mines with annual outputs ranging from 5 to 10 million tons. Among the 2,137 counties in the country, 1,221 of them have built their own local mines.

Yet the development of coal industry is lagging behind the national economic development, and within the coal industry itself, mining and tunneling are somewhat disproportionate. In 1979, the coal industrial sector firmly upheld the principle of making readjustment on the one hand and increasing production and practicing economy on the other. The coal output exceeded the quota of the state plan when the work of readjustment began.

Construction of Eight Major Coal Bases Speeded Up

In his report before the First Session of the Fifth National People's Congress, Premier Hua Guofeng proposed the construction of eight major coal bases. In 1979, construction of these eight bases began systematically.

The eight major coal bases are: Huainan and Huaibei Mines of Anhui Province (called the "Two-Huai Coal Base" for short); the Yangzhou mine of Shandong Province; the Xuzhou Mine of Jiangsu Province, which is also called the Feng (county), Pei (county) and Tong (shan county) coal base; the Kailuan Mine of Hebei; the Datong Mine of Shaanxi; the Pingdingshan Mine of Henan; the Lu (zhi) Pan (county) Shui (Cheng) Mine of Guizhou; and the Huolinghe Mine of Nei Menggol Autonomous Region. The coal reserves of these eight major bases have been verified as being more than 120 billion tons. In 1979, the task of building these eight major bases amounted to one-third of all the capital construction tasks for the coal industry in the country.

Among these eight major coal bases, Kailuan, Datong, Pingdingshan and Xuzhou Mines are the old coal producing centers of China supplying huge quantities of coal for the state. New construction, expansion and alterations were continued in 1979. In Kailuan Mining Area, for example, a large mine shaft with a designed capacity of 4 million tons--the Qianjiaying Mine--and the Linnancang Mine with a designed capacity of 1.2 tons, were newly built. In Datong Mining Area, the building of a new mine, the Yanzishan shaft, with a designed capacity of 4 million tons, also began in 1979. In Pingdingshan Mining Area, the No 8 mine with a designed annual output of 3 million tons is now under construction. Finally, in the Feng-Pei-Tong Mining Area, the building of two pairs of shafts with an annual output of 3 million tons is now beginning. Here, a coal dressing plant is also being built as a

preparation for the supply of more dressed coal for the Baoshan Iron and Steel Complex.

Huainan, Huaibei, Yangzhou and Huolinhe Coal Mines are the newly built major coal bases in China.

Huainan and Huaibei Coal Bases are located in the broad plain north of Huaihe River in Anhui Province. The known coal reserves in these mines are more than 22 billion tons. The coal formation is thick and the quality is good. In the past several years, more than 70,000 workers and technicians from various parts of China have come here to help build these bases. At present, work has already been started on eight pairs of shafts with a total designed capacity of 15 million tons. The building of five large coal dressing plants has already been planned and work on one of them with a designed capacity of 1.8 million tons has already been started. Construction of highways, a two-level railway bridge, and railways passing through the mining area are proceeding in earnest. The engineering jobs of power transmission and transformation and the building of workers' dormitories, stores and schools are all under way.

The Yangzhou Coal Base is located in the southeastern part of Shandong and occupies an area of more than 3,700 square kilometers. It has rich coal reserves and thick coal formations, with gas coal and rich coal of low sulphur and low ash contents as the main features. These are fine quality coal for producing power and for coking. In 1979, more than 23,000 workers and staff members assembled here to start work on three main shafts with a total designed capacity of 10 million tons. Four pit shafts of one of them, the Xinglongzhuang Mine, have already reached the bottom, and 63 percent of the work on the tunnels and 74 percent of that on the ground surface as planned have been completed. The main shaft and the north-south ventilation tunnel of Baodian Mine, with a designed capacity of 3 million tons, have also been completed.

The Huolinhe coal base is the largest opencut mine in China. The annual designed capacity is 10 million tons in the early stage and 20 million tons in the late stage. It was designed jointly by two companies of the Federal Republic of Germany, and modernized equipment and methods for coal extraction will be used in the entire base. At present, more than 10,000 workers and staff members have gathered together in the central area of the coal field and are putting up the power plants, material processing plants, vehicle repair plants, cement factories, warehouses and other auxiliary projects. The Tong-Huo Railway of more than 400 kilometers will soon be open for traffic.

Completion of a Large Modern Coal Mine, the Sangshuping Coal Mine

The building of Sangshuping Coal Mine, a large modern coal mine in China, was successfully completed in November 1979. It has been formally commissioned.

The Sangshuping Coal Mine is a large mine designed, built and equipped by China itself. The designed annual capacity is 3 million tons. There are five coal mining areas and 12 work sites below the shaft and extraction is mechanized. Surface transportation, loading, storage and other links of production are all automatically controlled. Facilities for the workers' daily life and the welfare measures are fairly complete. In addition to the workers' dormitories, clubs, stores, schools, mess halls, hospitals and childcare centers, there is a joint service building with a total floorspace of 12,000 square meters. Inside this building are spacious bathing pools, gymnasiums equipped with sun lamps, changerooms and light control rooms. This shows the concern of the party and the state for the miners.

There are rich coal resources in the north of the central plain in Shaanxi. This region is called the "Black Belt North of Wei River." Sangshuping Coal Mine is located at the eastern tip of this belt inside Hancheng County. It is close to Huanghe River and is also accessible by highways and railways. The coal reserves here are rich and the coal has high caloric value, low ash contents and is good for the power industry.

Mechanized Coal Mining Teams Rewarded by Ministry of Coal Industry

In 1979, there were altogether 560 mechanized coal mining teams (commonly referred to as 487 mechanized coal mining teams and 73 comprehensive mechanized coal mining teams) for all the coal mines under unified state control. These mechanized coal mining teams produced 96.31 million tons of coal, or 32.45 percent of the total output of these state-controlled mines in that year.

In 1979, the Ministry of Coal Industry rewarded 130 advanced mechanized coal mining teams, classified as A, B and C teams. Among these 130 coal mining teams, there were 108 ordinary mechanized mining teams, and the one with the highest output was the Third Mining Team of Wangfeng Mine under the Jiaozuo Coal Administration Bureau. Its annual output was 563,509 tons, being three times that of the other ordinary mechanized teams. The Ministry of Coal Industry also rewarded 22 comprehensive mechanized mining teams, and the one producing the highest output was the Third Team of Qishan Mine under the Xuzhou Mining Administration Bureau. Its annual output was 631,562 tons.

The Ministry of Coal Industry awarded the advanced mechanized coal mining teams certificates of merit and banners, and commended them for their creative labor and great achievements.

Petroleum Industry

[Article by Yu Youhai [0060 2589 3189]]

General Description

The petroleum industry has undergone great development since the founding of the People's Republic. In 1979, the total national oil output was 106.15 million tons, a 2-percent increase over that of 1978, and in the ninth place among the oil producing countries of the world.

In 1949, when New China was born, the national output of crude oil was only 120,000 tons (not including that of Taiwan Province. Same as follows.) In 1979, the annual output of crude oil was more than 881 times that of 1949, with an average progressive increase of 25.4 percent each year. Because of the development of the petroleum industry, China became basically self-sufficient in oil in 1963 and began to export oil in 1973. Thus China has become an oil exporting instead of an oil importing country.

By now, China has built more than 10 bases for the production of oil and natural gas, such as Daqing, Shengli, Jizhong, Dagang, Liaohe, Henan, Karamay, Yumen and Sichuan.

Instead of being limited to Gansu, Xinjiang, Shaanxi and Sichuan as it had been before the liberation, the source of oil supply was extended to 19 provinces,

municipalities and autonomous regions. The number of workers and staff members engaged in the oil industry was also increased from 11,000 to 1 million.

China's outputs of crude oil and natural gas was increased and the economic and technical targets were also satisfactorily fulfilled in 1979. For example, the water content of the exported oil was reduced from 0.69 percent in 1978 to 0.48 percent; and the consumption index of fuel for processing every ton of crude oil was reduced from 38.43 kilograms in 1978 to 33.66 kilograms. The general labor productivity was increased from 53,820 yuan in 1978 to 55,003 yuan. From 1950 to 1979, the total amount of profits handed over and taxes paid to the state was 3.2 times the total state investments on the petroleum industry.

The Rapidly Developing Oil Refinery Industry of China

Along with the increase of crude oil output, particularly since the opening of the Daqing Oilfield, China's oil refinery industry has also developed rapidly. Shortly after the founding of New China, there were only a few oil refineries in the country, such as those in Yumen of Gansu and Fushun and Dalian of Liaoning. Now there are oil refineries in 21 provinces, municipalities and autonomous regions. In 1979, the plan for processing crude oil was overfulfilled.

The production of gasoline, kerosene, diesel oil and lubricant oil, among others, has not only reached the planned quota, but also fulfilled the task of increasing the output of each item by 1 million tons in 1979. The total output of these four major categories of products was 5.5 percent above that of the previous year. At the same time, compared with those of 1978, the output of aviation gas was increased by 21.8 percent and that of light chemical industrial oil increased by 40 percent. Other oil outputs have also increased by varying degrees. As a result of the campaign to increase production and practice economy, the comparable product costs in the whole trade were reduced by 1.48 percent, which means a saving of 125 million yuan of state funds.

The quality of refined products in 1979 also showed improvement. The grand total of 918 varieties of oil products turned out by the key refineries in 1979 was the highest in history, and 304 of them, an increase of 102 over the previous year, reached the advanced levels in the country; while 143 of them, an increase of 47 over the previous year, reached or approached the world standards. The No 3 jet fuel of Oil Plant No 7 and the No 45 transformer oil of Dushanzi Oil Refinery were awarded gold medals from the state, while the No 46 anti-corrosion turbine oil was awarded a silver medal. In addition, another 33 varieties of oil products from 22 enterprises were rated as fine-quality products.

Sustained Increase of Output by Daqing Oilfield

Daqing Oilfield is the largest comprehensive petrochemical industry complex in China. In 1979, this oilfield produced more than 50 million tons of crude oil, and the production targets set in the state plan were fulfilled.

Beginning from May 1960, the average output of crude oil by Daqing Oilfield was increased at an average progressive rate of 28 percent annually. The development was very fast. Normally, an old oilfield like this, which has been in operation for more than 10 years, should have a progressively reduced output. To solve this problem, the workers of the oilfield has since the early days of operation used the method of internal water injection to maintain the pressure in the oil formations

and then, in the later stage, the method of water injection and oil extraction layer by layer. Their technique occupied a leading position in the history of oilfield operation in the world. At present, the pressure in the oil layers is even higher than before, and none of the spurting wells has ever stopped spurting. The average daily output is higher than that of the early days, and the whole oilfield continues to maintain its high and stable yield.

Along with the high and stable yields of crude oil and natural gas, the processing of crude oil, the petrochemical industry and other productive undertakings in Daqing Oilfield in 1979 also underwent new developments, and the labor productivity of the entire personnel exceeded 60,000 yuan, an all time high for the oilfield. From 1960 to 1979, the total amount of profits and taxes to the state from Daqing Oilfield was 17.8 times the total amount of state investments in this oilfield.

In 1979, the living conditions of workers and staff members of Daqing Oilfield were also improved. There were 133 newly built residential houses with a total floorspace of 400,000 square meters, and 6,700 families of the workers and their dependents have gradually moved into their new homes.

Liaohe Oilfield, A Large Oil and Gas Field, Completed

In Liaoning, the base of heavy industry in China, a large oil and gas field--the Liaohe Oilfield--was completed in 1979. According to its present productive capacity, this oilfield can produce 5 million tons of crude oil and 1.7 billion cubic meters of natural gas annually. It has become one of the principal oilfields in China.

Liaohe Oilfield is located between Shenyang, Yingkou and Jinzhou in Liaoning Province and is accessible by railways and highways from all directions. By the end of 1979, more than 1,800 wells had been sunk in the oilfield, and more than 160 stations for storing and shipping out the gas had been established. It now consists of eight completely equipped oil extraction centers. Its completion and commission will bring the local iron and steel industry, oil refining industry and chemical fertilizer industry closer to the source of crude oil and natural gas supplies. It will play a very significant role in further developing the role of Liaoning as an old industrial base. The reserves of oil and gas in Liaohe Oilfield are fairly abundant. The oil-bearing formations are thick and there is a large variety of oil and gas deposits. The quality of the crude oil is fairly good, with low sulphur content and a higher proportion of light oil.

The exploitation and building of Liaone Oilfield began in 1970. Because of the interference and sabotage by Lin Biao and the "gang of four," and its location in marshland, the oilfield was confronted with many difficulties. After the smashing of the "gang of four" and particularly after the Third Plenum of the 11th Party Central Committee, the construction began to gather momentum, and by 1979, the productive capacity of crude oil was newly increased by 50 percent, while the output of crude oil was actually increased by 27 percent over that of 1978. In 1979, the newly completed Huanxiling Oil Extraction Area was able to produce 1.39 million tons of crude oil, because it was built in a scientific way and completely equipped for oil and gas extraction, water injection and with electricity supply, highway transportation and facilities for the treatment of polluted water.

In the course of its building, the leadership of the oilfield paid great attention to the living conditions of workers and staff members and organized their dependents to reclaim land and to develop agricultural and sideline production. The building of workers dormitories, hospitals, schools, stores, childcare centers and other daily life facilities in all oil areas are now in progress.

High-Speed Construction and Commissioning of Nanyang Oilfield

The site of Nanyang Oilfield was discovered in a small depression of the geological structure. This discovery has helped emancipate people's minds and open a broad vista for oil prospecting in small and medium-size basins.

Located in the southwestern part of Henan, Nanyang Oilfield is the first oilfield built in the central-southern region where the scarcity of oil resources was well-known. Prospecting began in 1970, followed by construction in May 1977. Carrying forward the fine tradition of the Daqing workers in overcoming difficulties and tapping potentials, they succeeded in building the oilfield as a productive source, putting it into operation, and handing over profits to the state all in the same year. By 1979, there were in the oilfield hundreds of oil wells and water injection wells, more than 850 kilometers of pipelines of various types already laid, four combined transportation stations, 38 measuring stations, two long oil pipelines measuring hundreds of kilometers, and a large number of engineering projects. Oil from this oilfield is carried through long pipelines to refineries, some chemical fertilizer plants and other enterprises. This oilfield has made important contributions to industrial and agricultural developments in the Central Plain and South China.

New Achievements of China in Oil Prospecting

To look for new resources of oil and gas, China devoted more manpower to oil prospecting and completed more work in 1979 than in any previous year. Its achievements in that year were remarkable.

In the southwestern part of Qaidam Basin of Qinghai Province, a new oilfield with rich reserves was discovered. Out of the 26 exploratory wells sunk, 20 of them have shown oil-bearing formations and two of these wells which had been under trial extraction for 1 year and some 4 months respectively, are each producing more than 100 tons of oil and 10,000 cubic meters of natural gas daily. According to the data of prospecting, the underground pressure is high; the geological structure is favorable; the crude oil is light; and the output is high. The new oilfield has great assets for future exploitation.

In the Tarim Basin in the southern part of Xinjiang, three high yielding oil and gas wells were sunk. According to the conditions of spurting as observed over a long period, there is huge underground pressure and the output is quite steady. The output of each well is hundreds of tons of crude oil and over 10,000 cubic meters of natural gas. Tarim Basin has an area of 560,000 square kilometers, which is more than the combined areas of Shandong, Henan, Anhui, Jiangsu and Shanghai. The conditions of these three high-yield wells indicate the rich oil and gas resources in this huge basin. There is a good future for oil geological prospecting here.

An oil well of industrial value has been sunk in the basin at the estuary of Zhujiang River in the South China Sea, and in Sichuan, prospecting for natural gas is being continued.

China's geological workers, engaged in oil prospecting, are now working in North China, Northeast China, East China, Northwest China, Central-South China, and Southwest China in addition to the continental shelves and along the coast, and have made many new discoveries of oil and gas resources.

Power Industry

[Article by Ding Genxi [0002 2704 0823]]

General Description

In China, 281.95 billion kwh of electricity were generated in 1979, a 9.9 percent increase over that of 1978. This figure of generation was then the seventh highest in the world. By the end of the same year, the installed capacity reached 57,225,400 kilowatts, the eighth highest in the world.

Such an achievement was attributed to the efforts of the broad masses of workers and staff members of the electric power departments who had, for 30 years, labored under trying circumstances created by the extremely backward electric power industry in Old China. The power generated in 1979 was 64 times that of 1949, and the installed capacity was 31 times that of Old China. The geographic distribution of electric power industry has undergone very great changes. In addition to the Northeast, North China, East China, Beijing, Tianjin, Shanghai and other coastal areas, many large and medium-size power plants have been built in the Central-South, the Southwest, the Northwest and even in the remote frontier and mountainous regions. By the end of 1979, there were in China 2,847 power plants each with a generating capacity of 500 kilowatts or more. Among them, 1,528 were hydropower plants and 1,319 were thermopower plants. There were 68 large power plants with installed capacities of more than 250,000 kilowatts, and their combined installed capacity amount to more than 50 percent of that of the whole country. Among the large thermopower plants are the Qinghe Power Plant of Liaoning, Wangting Power Plant in Jiangsu, Tangshan Power in Hebei, Shijingshan Power Plant of Beijing, and Qingshan Power Plant of Hubei. Among the large hydropower plants are Liujiaxia Hydropower Plant of Gansu, Danjiang Hydropower Plant of Hubei, Gongzui Hydropower Plant of Sichuan, Xinanjiang Hydropower Plant of Zhejiang, and Zhesi Hydropower Plant of Hunan. These hydropower plants are distributed along the valleys of Huanghe River, Hanjiang River, Daduhe River, Xinanjiang River, and Zishuihe River. There are also thousands or tens of thousands of small hydropower plants scattered over the broad rural and mountainous areas.

Power industry is a big coal consumer and the amount of coal burned in this industry amounts to more than one-sixth of the coal output every year. A large amount of electricity is also consumed by the power industry itself. In 1979, the electric power departments popularized some new techniques for coal and power conservation, and for transportation and fuel control. The amount of standard coal to be consumed for the production of each kwh of electricity generated by thermopower plants of more than 6,000 kilowatts throughout the country was reduced by 12 grams below that of 1978. Thus in the year 1979, 4 million tons of coal and 1.54 billion kwh of electricity were saved.

According to statistics, more than 1,004,100 workers and staff members were engaged in the power industry in 1979; the total output value reached 16.14 billion yuan; and the profits handed over to the state totalled some 4,982 million yuan. From the

time of the founding of the People's Republic to the end of 1979, an amount of 63.43 billion yuan was handed over to the state from the power industry as a contribution to China's socialist construction.

China's Power Grid

A power grid stands for a combination of the power generating plants, power transformer substations, power transmission lines and power distribution lines, for the generation and supply of electricity. Along with the developments in the construction of hydropower and thermopower plants, and the enlarged scope of power supply, China's power grid has continued to expand. By the end of 1979, 20 power grids of more than 500,000 kilowatts were formed. Among them were the Beijing-Tianjin-Tangshan power grid, the East China power grid, the Northeast power grid, the Shaanxi-Gansu-Qinghai power grid, the Central China power grid, the Shandong power grid, the Shanxi power grid, the Sichuan power grid, the Guangdong power grid, the Central-Northern Hunan power grid, the Southern Hebei power grid and the Guiyang power grid, totalling 12, and each with an installed capacity of more than 1 million kilowatts. The combined installed capacity of the 20 power grids accounted for 83 percent of that of the whole country. Hydropower and thermopower supplemented each other in timely adjustments within the power grids, which also strived for the rational use of fuel and the reduction of consumption. The different regions supported one another by supplying to one another's needs. Safety in power generation and supply is guaranteed and the requirements for industrial and agricultural production and the people's daily life will also be taken care of. Even though there may be destruction in the event of war, power supply can be speedily restored.

To further strengthen the centralized control of the power grids, the North China, Northwest China and Central China Power Industry Administration Bureaus were established in addition to the original two in Northeast and East China, with the approval of the State Council. Since January 1980, the North China Power Industry Administration Bureau has taken over overall controls of power generation in North China and the Northwestern regions. This will create the conditions for further expansion of the power grid of Northwest Region and the full exploitation and utilization of energy resources. The Southwest Power Industry Administration Bureau is now in the process of establishment.

By 1979, all power grids had restored their normal cycle operation. In the previous years, administration of the power industry was chaotic because of the interference and sabotage by Lin Biao and the "gang of four," and the cycle operation in the East China and other large power grids was seriously low, causing serious damage to industrial and agricultural production. Since the smashing of the "gang of four," the power industry departments in various localities have paid great attention to capital construction and the improvement of their existing equipment through maintenance and repairs, and achieved 93 percent efficiency for their power generating equipment. At the same time, they stepped up their efforts in the planned use of electricity and in electricity conservation, and thus enabled the power grids to gradually restore their normal cycle operation despite fairly serious shortage of power. According to statistics compiled on the East China power grid, some 800,000 kwh of electricity, the amount generated by 450 tons of coal, has been saved each day as a result of the raised voltage following the restoration of normal cycle operation.



A - Thermopower generation station; B - Hydropower generation station;
C - Large hydropower station now under construction

Key:

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|-----------------|------------------|---------------------|
| 1. Sanshenggong | 15. Hongyan | 28. Zhaoping |
| 2. Bapanxia | 16. Wujiangdu | 29. Fengshuba |
| 3. Qingtongxia | 17. Zhelin | 30. Xijin |
| 4. Yanwoxia | 18. Chencun | 31. Xinfengjiang |
| 5. Liujiaxia | 19. Fuchunjiang | 32. Riyuetan |
| 6. Sanmenxia | 20. Xinanjiang | 33. Liuxihe |
| 7. Chaipingpu | 21. Zhexi | 34. Jingboho |
| 8. Ankang | 22. Shangyou | 35. Fengman |
| 9. Huangiongtan | 23. Gutian | 36. Baishan |
| 10. Danjiangkou | 24. Erhai | 37. Yunfeng |
| 11. Longxihe | 25. Ruyuan | 38. Miyun |
| 12. Gengzui | 26. Wengjiang | 39. Shuifeng |
| 13. Changyang | 27. Chuanchangxi | 40. South China Sea |
| 14. Yilihe | | |

More Than 40 Power Generation Projects Newly Completed in 1979

In 1979, China's Power Industry Departments newly completed 41 large and medium-size hydro- and thermopower generation projects, newly installed 53 generating units with a total installed capacity of 4.09 million kilowatts, and overfulfilled the state's plan of power generation.

Some of the newly completed thermopower generation projects and newly commissioned thermopower generating units were large "pit-mouth" power stations close to coal mines. These are, for example, the Xuzhou Power Plant of Jiangsu, Jiaozuo Power Plant of Henan, Matou Power Plant of Hebei, Shentao Power Plant of Shanxi, Hancheng Power Plant of Shaanxi, and Shiliquan Power Plant of Shandong. In the Xuzhou Power Plant, built near the Xuzhou Mining Administration Bureau, four sets of 125,000 kilowatt generating equipment have been completed, installed and commissioned by December 1979, and are daily transmitting some 7 million kwh of power for the East China power grid. They are playing an important role in easing the power shortage in Jiangsu and East China regions.

The newly completed hydropower stations and the newly commissioned hydropower units included the Wujiangdu Hydropower Station and the Maotiaohe "Five-stage" Hydropower Station of Guizhou; the Hunanzhen Hydropower Station of Zhejiang; the Taipingxiao Hydropower Station of Liaoning; the Xierhe One-Stage Hydropower Station of Yunnan; the Huaan Hydropower Station of Fujian; and the Niululing Hydropower Station of Hainan Island. The Wujiangdu Hydropower Station of Guizhou is located near the natural barrier where the Red Army forced the crossing of Wujiang River many years ago. Its designed capacity is 630,000 kilowatts. Its main dike is 368 meters long and 165 meters high, and is the highest one basically completed in China. The first set of 210,000 kilowatt water turbine generating units was completely installed and began to generate electricity on 28 December 1979.

In 1979, acting in accordance with the policy of national economic readjustment, the Ministry of Electric Power Industry and the various provinces, municipalities and autonomous regions rearranged their original power projects according to their sizes and relative urgency, and had to halt or postpone a number of them which were unrealistic in terms of construction possibility in order to protect more than 40 key projects, which must be continued, by concentrating the manpower and financial and material resources. Thus these projects were completed, started operation on schedule, and produced the expected results in the same year.

In addition to the Gezhouba Hydropower Station of Hubei and Longyangxia Hydropower Station of Qinghai, there are also other large hydropower stations under construction, such as the Ankang Hydropower Station of Shaanxi and the Baishan Hydropower Station of Songhua River, each with an installed capacity of approximately 1 million kilowatts.

Gezhouba--the Largest Water Conservation Project in China

Construction of the first giant multiple-purpose project on the Changjiang River--the Gezhouba Project--is now being speeded up.

This project is taking place at the estuary of the Xiling Gorge, one of the three gorges of Changjiang River, and 2.3 kilometers below Nanjingwan within the city limits of Yichang. After passing by Nanjiangwan Pass, the river takes a sharp turn from the east to the south, and its width increases from 300 to 2,700 meters. The flow then becomes slower. There are two small islets in the river--Gezhouba and Xiba--and these islets divide the river into three waterways known as the main, second and third channels. Gezhouba is where the gigantic project takes place.

The Gezhouba multi-purpose power station will have a total installed capacity of 2,715,000 kilowatts, and an average annual output of 13.9 billion kilowatt hours.

After completion, it will greatly ease the serious shortage of electricity in the central-southern region.

The Bezhouba project was divided into two stages. The first stage included the construction of two navigation locks and a scouring sluice with six gates on the third channel, and the installation of seven power generating units with a total capacity of 965,000 kilowatts and the construction of a spillway with 27 gates on the second channel. Construction in this stage calls for 70 million cubic meters of earth and stones to be dug out and later to be used for filling holes, and the pouring of 5.73 million cubic meters of concrete. By the end of December 1979, 80 percent of the construction had been completed. The main dam had approached its designed height, while the second and third navigation locks and the scouring sluice with six gates had been basically completed. The dam leading to the entrance of the power station has already reached a height of 68 meters; the first generating unit is being installed; and of the 27 gates of the spillway, 19 have been completed.

This project is undertaken by the No. 330 Engineering Bureau. The construction has been gathering momentum in the 3 years after the smashing of the "gang of four," thanks to the efforts of the broad masses of workers and staff members. The construction task was overfulfilled every year.

Damming Project of Longyangxia Hydropower Station

A large hydropower station with an installed capacity of 1.5 million kilowatts is now under construction at the trunk of the upper reach of China's Huanghe River. This is the Longyangxia Hydropower Station, another large power station constructed on Huanghe River after Liujiaxia and Qingtongxia hydropower stations.

On 29 December 1979, the damming of Huanghe River was successful and the construction of the power station entered a new phase--the large-scale work on the main project.

Longyangxia hydropower station is located in a gorge of the same name in Gonghe County, Qinghai Province, 2,600 meters above sea level. After passing the large grassland in Qinghai Province, Huanghe River enters a 40-kilometer gorge. Here the river is only some 30 meters wide, but the average flow for many years has been only 640 cubic meters per second. Water resources are very rich and the river water has low sand content. The project includes the building of a 172-meter high dam, a reservoir with a capacity of 24.7 billion cubic meters, and the installation of five single-unit generating sets of 300,000 kilowatts. After completion and being put into operation, the electricity generated will be transmitted to two industrial cities, Xining and Lanzhou, and the other areas within the Northwest power grid. This will be a great contribution to socialist construction in the northeastern region.

Construction of Longyangxia Hydropower Station formally began in 1976. In 1979, this project was taken over by the Fourth Engineering Bureau of the Ministry of Electric Power Industry. With a concentration of manpower, and financial and material resources, a 661-meter long, 16-meter high and 15-meter wide tunnel has been excavated to divert the water from the river, and on 29 December 1979, the water flow in the river was successfully cut. Thus the formerly deserted area near the estuary of Longyangxia is growing up as a new industrial town with buildings of more than 300,000 square meters and a population of more than 20,000.

Two 500,000-Volt Ultra High Voltage Transmission Line Put Up

In October 1979, the first 500,000 ultra high voltage transmission line--the Pingdingshan-Wuhan Line--was erected.

This line starts from Pingdingshan, the coal base of the central plain, and ends at Wuhan, the industrial city of Hubei, after crossing the southwestern part of Henan, the northern plain of Hubei and the rivers of Shahe, Baihe, Hanshui and Changjiang. Its total length is 610 kilometers.

The function of this line is to increase the safety and stability of the Central China power grid and to insure power supply for the 1.7-meter rolling mill of Wuhan Iron and Steel Company. Parts of the equipment for this line were imported from France, Sweden and Japan. At present, 60 percent of the foundation has been poured with concrete; 10 percent of the towers has been erected; and the ground for building three transformer substations for the ultra high voltage line has also been leveled.

At about the same time, China put up another 500,000 ultra high voltage line for the transmission of electricity from the power station in the coal base of Yuanbaoshan in Liaoning to the industrial base of Liaoyang. This line is 380 kilometers long, and the work of putting it up started in the winter of 1979. The required equipment for this line was manufactured in China.

In the past, the highest voltage for the transmission lines built in China was only 330,000 volts. The 500,000-volt ultra high voltage transmission line is the highest ever produced in New China.

Vigorous Development of Small Hydropower Stations in China

Along with the development of socialist construction, the small hydropower undertakings have also vigorously developed. By the end of 1979, there were more than 90,000 small hydropower stations in the country with a total installed capacity of 6.34 million kilowatts. By 1979, the total installed capacity was increased by 1.07 million kilowatts. The combination of small hydropower stations with the state's power grids have enabled 86 percent of all people's communes and 60 percent of all production brigades in the country to use electricity.

China has rich water resources, and its water energy reserves rank first in the world. In addition to the large hydropower stations built by the state on Changjiang, Huanghe, Zhujiang and other large rivers, tens of thousands of small power stations have been built on the small rivers by the counties and people's communes in various provinces, municipalities and autonomous regions. This particularly true of the southern part of China where the river valleys are narrow, the water-flow is rapid, and the water drop is great. All these are favorable conditions for small hydropower stations. According to statistics, more than 1,500 of the 2,000 and more counties in the country have built their own small hydropower stations to help in irrigation, drainage, processing agricultural and sideline products, lighting and county- and commune-run industries in the countryside by providing low-cost electricity.

Small hydropower station refers to those with an installed capacity of 12,000 kilowatts or less, or a single-unit installed capacity of 6,000 kilowatts. They use

locally available water resources, require simple equipment and less investments, and can be easily built. Hence their rapid development. In Xizang, for example, there was in the past only one 18 kilowatt small hydropower station; now there are 424 of them with a total installed capacity of more than 45,000 kilowatts. In Rongxian County of the southeastern mountainous region of Guangxi Zhuang Autonomous Region, all 13 communes have used electricity since the completion of 250 small hydropower stations. In January 1980, the Ministry of Water Conservancy, the People's Bank of China, and the Agricultural Bank of China jointly held an on-the-spot meeting of small hydropower stations in China to further develop this undertaking.

Several New Energy Sources Used for Power Generation in China

Electricity from wind. By the end of 1979, China's largest experimental generating unit with the use of wind energy had already had more than 2,000 hours of normal operation. The electricity generated was used for lighting, for desalination of sea water and for pumping water, and has played its role in promoting fishery.

This experimental unit was installed on Sijiao Island. With an installed capacity of 18 kilowatts, this unit was jointly designed and installed by the East China Electric Power Designing Institute, the Shanghai Municipal Engineering Designing Institute, the Zhejiang Hydropower Designing Institute, the Zhejiang Provincial Mechanical Science Research Center, the Shaoxing Food Machinery Plant and the Zhejiang Provincial Electric Power Department.

Sijiao Island is located in the east of Hangzhou Bay among the Shengsi Islands to the southeast of the estuary of Changjiang River, where there is always a strong wind with a velocity of 7.1 meters per second, and a force 3 wind for at least 300 days a year. This set can generate electricity with a force 3 wind and will be in full operation with a force 5 wind or more.

The use of wind to generate electricity has the advantage of being pollution-free. Since 1976, China has been studying the utilization of wind force for power generation. By the end of 1979, more than 200 generators turned by wind and each with a capacity of 100-250 watts, have been installed on the grassland of Nei Menggol. They will provide lighting for the yurts, and supply power for movie and electric fences.

Geothermal Power Generation

China has very rich geothermal resources. According to statistics, hot springs have been discovered in more than 2,000 different places. The result of prospecting by the geothermal utilization research departments in more than 30 geothermal areas in Xizang, Yunnan, Guangdong, Fujian and 10 other provinces, municipalities and autonomous regions shows rich reserves of geothermal resources over extensive areas.

Generation with geothermal resources requires no coal or other fuel. From 1970, when research began on the use of geothermal resources for power generation, in 1979, seven experimental stations have been established in China. The largest among them is the Yangbajing Experimental Geothermal Power Station in Xizang, with an installed capacity of 1,000 kilowatts. Work has been going on there to install two generators of 3,000 kilowatts each, and one of them will be ready for operation by the end of 1980. There are also six other experimental geothermal power stations.

in Huitang of Hunan, Huailai of Hebei, Yichun of Jiangxi and other parts of China. Among them, the one in Hunan is the best. This station has been in regular operation for a long time, and the hot water obtained after the generation is used for pharmaceutical and agro-scientific research, for nursing young plants in hothouses, and for field irrigation. Instead of incurring any loss, these experiments have even produced great profits for the state.

Generation with Tidal Energy

Tidal energy power stations are operated through the utilization of tidal force. According to an estimate, the total resources from tidal force along the coast of China is enough for a total installed capacity of 110 million kilowatts, and the force which can be harnessed and utilized can supply 31-35 million kilowatts.

Experiments on tidal power stations began in 1958. By the end of 1979, the stations already commissioned were: the Rushan power station of Shandong, with an installed capacity of 300 kilowatts; the Jingang Power Station in Shandong, with an installed capacity of 165 kilowatts; the Xiaoshashan Power Station of Zhejiang, with an originally installed capacity of 40 kilowatts, now increased to 200 kilowatts; and the Xiangshan Power Station of Zhejiang with an installed capacity of 100 kilowatts. The completion and operation of these power stations are supporting local agriculture and fishery.

Tidal generation requires no fuel and is pollution-free. It is also suitable for comprehensive utilization in developing the breeding of fish and prawns, in marine chemicals industry, and so forth.

New Technological Achievements in Power Industry

In 1979, three new achievements in China's power industry were passed by the State Scientific and Technological Commission as new inventions. They are: directions for the preparation and application of epoxy emery coating for resistance against abrasion by sands, to be used for hydropower machinery (including water turbines and water pumps); directions for the preparation and application of an abrasion-proof coating compound for hydropower machinery; and the equipment for hydraulic interlocking control of the TFW-400 model pressure adjustment valve. These scientific and technological achievements are now serving hydropower stations with remarkable results.

In Huanghe River of China, each cubic meter of water contains an average amount of 37 kilograms of sands. Even the water from the upper reach contains approximately 10 kilograms. Therefore, the water turbines used by the hydropower stations and the water pumps used by the irrigation and drainage pumping stations along the river are usually damaged through friction with the sands. Such damage inevitably causes the shutdown of the hydropower station for repair by welding. In 1976, when the No 1 water turbine of the Qingtongxia Hydropower Station was damaged, the overhaul took more than 3 months, and more than 2,100 kilograms of stainless welding rods, costing more than 42,000 yuan, were used in repairing 4 propeller blades. To solve this problem, the Research Institute of the Huanghe Water Conservancy Committee and the Research Institute of the Tianjin Surveying and Designing Institute invented the new technique of epoxy emery coating. In repairing the propeller blades of the water turbine, no welding is required, because an application of the coating according to the specified way will suffice. Thus for each repair, the time can be reduced by 90 percent and the expenses reduced by 95 percent.

The use of abrasion-proof nylon coating compound is another new way to prevent damage from the same source. This is particularly suitable for small water turbines and small and medium-size water pumps.

Some of the hydropower stations in China have water diversion as one of their functions. In building this type of power station, it is also necessary to build a pressure adjustment well in order that the safety of the generating unit and the tunnel can be ensured. This will cost a lot of money and material. The Xian Heat Treatment Research Institute of Shaanxi Province, the Yangzhou Power Equipment Repair and Manufacturing Plant of Jiangsu, and the Huadong Power Design Institute invented the equipment for the hydraulic interlocking control of TFW-400 Model Pressure adjustment valve. The building of the pressure adjustment well will not be necessary if this equipment is installed in the power station.

Metallurgic Industry

[Article by Xu Yaozhong [1776 5069 0022]]

General Description

In 1979, the steel output of the metallurgic industry in China reached 34.48 million tons, the world's No 5, and an increase of 8.5 percent over that of the previous year. Its output of pig iron was 36.73 million tons, a 5.6 percent increase over that of the previous year; and the output of rolled steel was 24.97 million tons, a 13.1 percent increase over that of the previous year. Thus the increase of rolled steel output was more than that of steel, and the increase of steel output was more than that of pig-iron. This is a gratifying result. The output of nonferrous metal exceeded 1 million tons, a 12.9 percent increase over that of 1978.

The quantity of metallurgic products surpassed the best in history. There were 101 iron and steel products rated as fine-quality products, and 15 varieties of them won state gold or silver medals for their fine quality. In the same year, the metallurgical system successfully trial produced 9,000 new varieties and new materials, and carried out 301 successful scientific experiments. The varieties of rolled steel has been increased, and the varieties in short supply were increased by 2.86 million tons to meet the requirements of agriculture and light industry.

In 1979, energy consumption in metallurgic industry was decreased markedly as compared with 1978, and the energy saved was equivalent to more than 4 million tons of standard coal. The key metallurgic enterprises earned more than 5.85 billion yuan in profits.

Before liberation, the foundation of this industry in China was very weak. In 1949, it produced only 158,000 tons of steel. In 1957, the output was increased to 5.35 million tons. It was over 10 million tons in 1959; over 20 million tons in 1971; and over 30 million tons in 1978. In 1979, the metallurgic industry continued to develop for the third year after the smashing of the "gang of four." The output then was 215 times that of the early post-liberation period, and topped all previous records.

In China, there are now about 2,000 metallurgic enterprises owned by the whole people, with some 4.1 million workers and staff members. It is capable of producing more than 20,000 types of steel products and have initially become a complete

metallurgic industrial system with different departments serving different functions. Among the main iron and steel producing centers in China are the Anshan Iron and Steel Company, the Benxi Iron and Steel Company, the Shoudu Iron and Steel Company, the Baotou Iron and Steel Company, the Maanshan Iron and Steel Company, the Panzhihua Iron and Steel Company, the Chongqing Iron and Steel Company, the Shanghai Metallurgy Bureau, and the Tianjin Metallurgy Bureau. Among the production bases of nonferrous metal are Baiyin, Daye, Zhongtiaoshan, Dongquan, and Tongling.

New No 2 Blast Furnace of Shoudu in Operation

The first blast furnace of fairly advanced technology in China--the New No 2 Blast Furnace of Shoudu Iron and Steel Company--has a capacity of 1,326 cubic meters, and was designed, manufactured and equipped in China. It is a top-burning type with a "material-less bell" [2477 2435 6988] top, using high temperature blast air. It also has a conveyor belt system for feeding materials, and has the advanced technological features of automatic sampling, temperature checking, analyzing, and so forth.

Construction of this blast furnace began by the end of 1977, and operation was started in late December 1979. The operation has been quite normal and productivity greatly raised. From 1 to 25 March 1980, the utilization coefficient of this blast furnace reached 1,729 ton/cubic meter day and night, and the coke ratio was 525 kilograms, being of the advanced national level.

Coefficient of Blast Furnace Utilization in Shoudu Iron and Steel Company Reaches Advanced World Level

The Shoudu Iron and Steel Company has four blast furnaces with a total capacity of 3,561 cubic meters, the smallest one being 576 cubic meters and the largest one being 1,200 cubic meters. The equipment used belonged to the 1950's and 1970's. In recent years, the plant strengthened its management and made rapid progress. In 1979, the annual average furnace utilization coefficient was 2,094 ton/cubic meter day and night, and the coke ratio was 433 kilograms/ton. The No 1 Blast Furnace in September had an average monthly utilization coefficient of 3,114 ton/cubic meter day and night, and the coke ratio was 362 kilograms/ton. All these were new records.

This plant has the highest average utilization coefficient and highest single furnace utilization coefficient among all Chinese iron smelting plants. It is also among the advanced world level.

Commissioning of 1.7-Meter Rolling Mill in Wuhan Iron and Steel Company

In 1979, when the Wuhan Iron and Steel Company had put its 1.7-Meter Rolling Mill into operation, its annual output was 220,000 tons of continuous cast steel billets, 298,000 tons of hot-rolled plate steel, and tin- and zinc-plated sheets; 148,000 tons of cold-rolled sheet steel; and 20,000 tons of cold-rolled silicon steel. The quality of all these products was up to the designed standard. The operation of this equipment is of great significance in ending China's backwardness in steel-rolling and in increasing the varieties of steel materials.

The 1.7-Meter Rolling Mill project of Wuhan Iron and Steel Company was a large-scale imported project. It has five components, namely the No 2 steel-smelting plant, the continuous casting workshop, the hot-rolling plant, the cold-rolling plant, and the silicon sheet steel plant. Except for the No 2 steel-smelting plant which was designed and constructed in China, the equipment for the other three plants and one workshop was all imported. The continuous casting and the cold-rolling equipment was imported from Japan. The whole set of equipment was supplied from more than 200 foreign trading firms. This equipment has the features of being large and automatic in addition to its high speed and continuous operation. The new technology used belongs to the advanced level of the 1970's. Its capacity is 3 million tons of hot-rolled sheet and plate steel, which can be processed into 2.79 million tons of finished products.

This project was carried out during the struggle against the interference and sabotage by the "gang of four." From the formal beginning of the construction in June 1975 up to its basic completion in December 1978, the entire process took 42 months. Then trial production began in the last quarter of 1978.

[Article by Guo Changxi [6753 2490 3588]]

Construction of Modern Baoshan Iron and Steel Complex

Baoshan Iron and Steel Complex, a modern iron and steel complex of China, is located along the Changjiang River bank in Yuepu Township of Baoshan County, Shanghai, and occupies an area of about 11 square kilometers. This is a gigantic imported project approved by the Party Central Committee and the State Council. After completion, this complex will have a wharf capable of accommodating 50,000-ton vessels carrying in raw materials, and workshops for coking, sintering, iron smelting, preliminary rolling, seamless steel pipe making, continuous cold rolling, continuous hot rolling, and its own power generation plant.

The completed Baoshan Iron and Steel Complex will have large-scale operation, new technology and high efficiency as its special features. Its designed capacity is the output of 6.5 million tons of iron and 6.7 million tons of steel each year. Its principal items of equipment will include two blast furnaces with a capacity of 4,063 cubic meters, three 300-ton top-blown oxygen converters; two sets of continuous plate casting machines, four large coking ovens, two 450-square meter sintering machines and a system of steel-rolling. The entire project is expected to be completed and put into operation by the end of 1984. By that time, there will be a bigger increase of steel products in Shanghai, and the proportion of steel plates, steel pipes and fine-quality steel in its steel materials will be doubled. The various economic targets of Shanghai steel industry will attain advanced world level. This will obviate the need, which has long been in existence, for China to spend huge sums of foreign exchange in importing steel.

According to the overall arrangement, the Shin Nippon Seitetsu Kaisha was responsible for the design while China was to undertake the construction for the design while China was to undertake the construction of the complex. Since it is located in the Changjiang Delta, an alluvial plain, over 10,000 steel-tube, concrete and sand piles had to be driven into the ground to consolidate the foundation. Workers from various parts of the country were organized by Shanghai Municipality and the Ministry of Metallurgic Industry to fight a mass battle. By the end of December 1979, more than 3,700-steel-tube concrete and sand piles had been driven into the ground to prepare the foundation for the blast furnace, converters, coke ovens and

power plants. The wharfs built along the banks of Changjiang River for the working ships, for the transportation of sand and stone materials and large sets of equipment had also been completed and put into operation, while work on the ground surface for the building of power plants, steel-smelting and repair plants had already begun. The construction has made rapid progress since it was formally begun on 23 December 1978, and the quality of work has received favorable comments from the departments concerned.

[Article by Xu Yaozhong [1776 5069 0022]]

Popularization of New Technique of "Grinding after Sieving" in Ore Selection

China has rich resources of low-grade [magnetic] iron ore. The new ore selection technique of "grinding after sieving" was first successfully used by the Dagushan Iron Mine of Anshan Iron and Steel Company. Through this technique, "pure" minerals can be obtained through its separation from other elements and high grade ores are obtained. Ores with more than 30 percent of iron can thus be upgraded to those of 67-68 percent. This new technique is of great economic value, and was popularized throughout the country in 1979. The ores selected by the key factories may contain more than 65 percent of iron while those selected by ore-selection plants of Shoudu Iron and Steel Company and the Nanfen Selection Plant of Benxi Iron and Steel Company were more than 68 percent, which is an advanced world level.

Machinery Industry

[Article by Huang Fenchu [7806 1144 0443]]

China's Machinery Industry with a Basically Complete Assortment

China's machinery industry has now become a basically complete system with different functions of a fairly wide scope and high technical level. These departments have played an important role in promoting agriculture, industry, national defense, science and technology.

In the early post-liberation period, there were only very little processing equipment, and whatever machinery China had were concentrated in Shanghai, Tianjin and Shenyang, for repairing, assembling, or producing a small number of motors, small water pumps, belt-driven lathes and other simple items. Now China's machine building capacity has been greatly expanded, and in the industrial system of the First Ministry of Machine Building alone, there are nearly 100 machine building trades of different sizes, and their products include automobiles, mine excavators, meters and instruments, and so forth, totaling more than 26,000 varieties. They are even capable of supplying complete sets of equipment for agriculture, industry, communications and transportation, national defense, scientific research and other departments. These complete sets of equipment include those required by iron and steel complexes with an annual output of 1.5 million tons of steel, complete sets for coal mines with an annual output of 2.5 million tons of coal; equipment for large oil refineries treating 2.5 million tons of crude oil a year; large hydropower generating units generating some 300,000 kilowatts; equipment for producing 300,000 tons of synthetic ammonia and 240,000 tons of urea a year; equipment for transmitting and transforming 330,000 volt electricity; large and long oil pipelines, and so forth. In 20 years from 1959 to 1979, these departments also produced complete sets of equipment for large construction projects.

China's machinery industry is capable of not only supplying complete sets of equipment but also developing high-grade precision advanced products which are beginning to approach or surpass the advanced world levels. China is now able to produce more than 80 different types of high-precision lathes required for producing high precision spare parts, and the annual output is more than 2,000 sets. It is no longer necessary for China to rely entirely on imported high-precision machines. The new instrument and meter industry has also rapidly developed in recent years. Some high-precision instruments and automatic meters are being produced, and some of them, such as the high precision electric bridge, potential difference gauge, standard resistance, and 60-line electro-magnetic oscilloscope have approached advanced world level.

Along with the rapid development of the machinery industry, the sale of Chinese products has been expanded to 111 countries and regions, and 114 types of exported products including lathes, forging equipment, automobiles, electric motors, ball-bearings, measuring and cutting tools, instruments and meters, are all well-received by the customers.

General Description of Production and Construction under the First Ministry of Machine Building

While implementing the policy of readjustment, restructuring, consolidation and improvement of the national economy, all departments under the First Ministry of Machine Building have adopted measures to boost production with certain success. In 1979, the capacity of generating equipment was up to 6 million kilowatts, an increase of 33.3 percent over the previous year; the number of lathes produced was 95,100, a 3.5 percent reduction below that of the previous year; and the number of automobiles produced was 167,800, a 25.4 percent increase. The total output value by the departments under the First Ministry of Machine Building was 36.07 billion yuan, an 11 percent increase over that of the previous year. Each worker created an output value of 11,000 yuan, 600 more than that of 1975 when labor productivity was already high. Many enterprises have improved their business management, strengthened their economic accounting, and strived to increase both production and income. The total profits for 1979 was 6,000,310,000 yuan, a 9.8 percent increase over that of 1978. The circulating capital required to produce every 100 yuan of output value dropped by 9 percent, and the output value produced by every 100 yuan of fixed assets rose by 7 percent over the previous year.

New improvement was noted in the quality of products. The machinery enterprises in various localities earnestly consolidated their own resources and launched the "trustworthy" campaign, besides producing brand-name products and catching up with or surpassing the advanced level. As a result, the products of various provinces, municipalities and autonomous regions, according to the result of a strict quality check, were 97.4 percent up to the required standard. The varieties of products were also increased and more than 900 new varieties were produced in 1979.

Consumption of raw materials and energy was reduced. The utilization rate of steel products was increased by 3.3 percent over that of 1978; and coke consumption for each ton of metal out of the copula furnace was reduced by 7.3 kilograms; and power consumption for each ton of steel out of electric furnaces was reduced by 32.4 kwh below that of 1978.

Investments in capital construction produced fairly good results. Two construction projects, namely the Hangzhou Brake Material Plant and the Leihe warehouse of Henan were completed and already in operation. So too were three single item construction projects including the High-Speed Gear Box Factory of Nanjing. The newly increased value of fixed assets in 1979 totalled 740 million yuan which was equivalent to 93.7 percent of the total investments for the same year. The productive capacity of friction materials was increased by 500 tons; that of heavy-duty cross-country vans, by 100; that of heavy-duty gear-boxes, 20 sets; that of power station boilers, 808 ton/hours; that of water treatment equipment, 2,370 tons; and that of power generating equipment, 100,000 kilowatts. These projects will play an active role in expanding the production of machinery and power products.

Key Enterprises under First Ministry of Machine Building Consolidated

Outstanding results have been achieved in the consolidation of key enterprises under the First Ministry of Machine Building. After the consolidation, more than 50 percent of the 655 key enterprises are up to the required standard according to the 12 Articles of Consolidation. More than 90 percent of the key enterprises under No 1 Machinery and Power Bureau of Shanghai, the Machinery Bureau of Beijing, No 1 and No 2 Machinery and Power Bureaus of Tianjin, and No 1 Machinery and Power Bureau of Heilongjiang Province are all up to the standard.

The consolidation of these enterprises began in 1977, when the First Ministry of Machine Building issued the 12 Articles calling for: effective quality control; strict technical control; better equipment control and maintenance; careful handling of technical equipment; improved product design; balanced production, "civilized" production and safe production; reduced consumption and increased accumulation; fruitful technical training, and so forth.

Since the consolidation, the advanced enterprises have further improved their management while some enterprises with "longstanding, big and difficult" problems have taken on a new complexion. As a whole, the success of enterprise consolidation is mainly manifested in the general improvement of the quality of products. Before the consolidation, about half of the products of the key enterprises were substandard. Now, according to a spot check conducted by the Ministry on 83 varieties of key products, 98 percent of them were up to standard. By the end of 1979, the machinery bureaus of 16 provinces and municipalities conducted strict examinations on 864 varieties of products, among which 240 varieties were found to be of first class quality, and 583 varieties were up to standard. A total of 109 varieties were named by the Ministry as "trustworthy quality" products, and another 12 were given state quality awards.

The success of consolidation among these key enterprises was further shown in the change from losses to profits. In 1976, 67, or 10.2 percent, of these enterprises suffered losses to the amount of 172 million yuan. After the consolidation in 1979, only 4 key enterprises suffered losses and the amount of losses was reduced to 6.9 million yuan.

Largest Low Water Head Water Turbine Generating Unit Completed

The first low water head propeller type water turbine power generating set, designed and manufactured in China to be used on the power station of Gezhouba in the multiple-purpose water conservancy project on the Changjiang River, was completed by the Dongfang Power Machinery Plant in Suchuan on 30 November 1979.

The generation of hydropower requires different water turbine generators according to different water heads. This generating unit, specially designed and manufactured for the Gezhouba Power Station is a rotary structure with four propeller blades attached. This type of turbine was first manufactured in China. With a capacity of 170,000 kilowatts, this unit is 30 meters high and the diameter of the rotor is 11.3 meters with four stainless steel blades attached. These blades are not only heavy and bulky, but also very complex in shape with very many different thicknesses. The required work process is very intricate. The stainless steel for the blades is a new type produced in China after careful research. It is very strong, tough and corrosion resistant. The turbine produces great pressure, and, under a water head of 18.6 meters, the designed flow is 1,130 cubic meters per second.

The research on and manufacture of this low water head generating unit were possible because of the strong supports from more than 30 scientific research units, institutions of higher learning and the factories concerned. Parts of this unit are being gradually transported to the construction site in Gezhouba for installation in the power station.

Successful Trial Operation of Large Synthetic Ammonia-Making Equipment in Shanghai

China has designed and manufactured its first set of equipment for producing 300,000 tons of synthetic ammonia and 240,000 tons of urea annually--a piece of equipment of the advanced 1970's level. On 31 December 1979, a successful trial operation of this equipment was carried out in Wuming Chemical Industry Plant of Shanghai. The Grade One synthetic ammonia and the urea particles containing ammonia were above the national standard.

This gigantic set of equipment consists of more than 700 separate parts and more than 10,000 valves and meters. It was jointly designed and manufactured by more than 400 units in different parts of China. It is capable of producing 300,000 tons of synthetic ammonia and 240,000 tons of urea, and symbolizes a big step forward taken by China in the machinery and power, metallurgy, instruments and meters, and chemical industries, besides an accumulation of new experiences in the domestic production of large chemical fertilizer equipment.

Special Technology Exported to West Germany

In 1979, the Hangzhou Oxygen-Making Machinery Plant of China sold to a firm of the Federal Republic of Germany the special technology of manufacturing heat converters of the wing type. The first batch of technical data has already been delivered according to the agreement. This is the first time for China to transfer its patent technology to a foreign country in the machinery industry.

According to the agreement signed in July 1979 between the China National Machinery and Equipment Import and Export Corporation and Linde Company of West Germany, the Chinese plant will sell to the German firm the complete data for the manufacturing of the wing-type heat converters together with the accessory equipment for molding the wings including four sets of special equipment and six sets of molds, all to be delivered within 10 years. The Hangzhou Oxygen-Making Plant will send specialists to the German firm to assist in the installation and adjustment of the equipment, and also undertake to train people sent to the plant by the German firm.

Heat converter is an important component of the oxygen-making machinery. The wing-type heat converter, produced by the Hangzhou Oxygen-Making Machinery Plant are of fine quality, low production cost, and fairly advanced technology. The German customer was interested particularly in the unique feature of the wings.

Linde Company of West Germany is one of the leading oxygen manufacturing firms in the world, and the Hangzhou Oxygen-Making Machinery Plant is the largest of its kind in China. These two enterprises also signed an agreement on cooperation in manufacturing 10,000 cubic meter and 28,000 cubic meter oxygen-manufacturing machines.

Technical Demonstrations and Exchange of Experiences in Machinery Industry

More than 400 skilled workers of the machinery industry arrived in Shanghai on 10 September 1979 to give technical demonstrations and exchange experiences in a 10-day seminar sponsored by the All-China Federation of Trade Unions, the Chinese Science and Technology Association, the First Ministry of Machine Building, and the Ministry of Agricultural Machine-Building Industry. This is the largest gathering of its kind in China since liberation.

Representatives from various localities gave skillful demonstrations and exchanged experiences in 309 advanced techniques of metal cutting, casting, welding, heat treatment, and press forging. The exchange and popularization of advanced techniques have given a strong impetus to the tapping of potentials and renovation and transformation of equipment in the machinery industry throughout the country. Ni Zhifu [0242 1807 4395], Political Bureau member of the Party Central Committee and Chairman of the All-China Federation of Trade Unions; Wang Chonglun [3769 1504 0243], model-worker of national fame and Vice Chairman of All-China Federation of Trade Unions; and responsible persons of the Shanghai CCP Committee and the departments concerned, attended this gathering. There were also many famous veteran model workers and fine young workers, and technicians. Worker-turned-engineer Sun Maosong [1327 5399 2647], known as the "miraculous handler of knives" of the Harbin Oxygen-Manufacturing Plant, gave a demonstration of high-speed "picking of worms" [tiao wogan; 2176 3260 2616], while worker Gu Zhi'an [6328 1807 1344] of the Yongding Machinery Plant of Beijing, demonstrated his skill in drilling. After Gu Zhi'an, Ni Zhifu also gave a similar demonstration. Young worker Yang Chenhuai [2799 6591 2037], the champion in a welding contest held in Shanghai, also gave a demonstration of his skill in copper welding. Their fine performances won great applause from the audience.

Construction Materials Industry

[Article by Zhou Zhong [0719 1813]]

General Description

The construction materials industry in China has undergone very great development in the 30 years after the founding of the People's Republic. There are now more than 46,000 construction material enterprises with more than 3.5 million workers and staff members in the country. Among them, some 5,000 are owned by the whole people with more than 1.4 million workers and staff members; and some 40,000 are owned by the collectives, with some 200,000 workers and staff members. In 1979, the total output value of construction materials in the country was 16.7 billion yuan.

There have been big increases in the varieties of products in the construction materials industry. There are now three large categories of products controlled by different departments of the Ministry of Construction Materials:

First, materials used in civil engineering. The main items are cement, plate glass, ceramics for bathrooms, asphalt felt, bricks, tiles, sands and the items newly developed in the past 10 years including aerated concrete, gypsum boards, asbestos and cement plates, steel mesh cement plates, plastic wall papers, fiber glass wall papers and various types of blocks.

Second, the nonmetallic mineral products. Among them are limestones, quartz stones, Dali stones, granites, gypsum, porcelain clay and so forth. Some of them are construction materials and others are used as raw materials for the same purpose.

Third, new inorganic nonmetallic materials or finished products processed mainly from raw materials of the above two categories. They are glass fibers, graphite fibers, reinforced plastics, industrial technological glass, quartz glass, special ceramics, cast stone, cement pressure pipes, cement boats, cement railroad sleepers, cement power poles and so forth.

The output and varieties of various construction materials were increased. In 1979, the national cement output was 73.9 million tons, an increase of 13.3 percent over that of 1978. The varieties of cement was increased from just a few before liberation to nearly 100. In addition to ordinary cement of different labels and slag cement, there are now special cements for dams and oil wells, quick-setting, quick-hardening and high-strength cements for emergency use, expanding cements, and colored cements. In 1979, the national output of plate glass was 23.3 million standard crates, an increase of 16.3 percent over that of 1978. In addition to plate glass of various thicknesses for different construction purposes, there were also reinforced curved plate glass, polished glass, laminator glass, glass with embossed designs, and endothermic glass, all extensively used in the electronic, automobile, aviation, chemical and instrument and meter departments. In the past, there was only one variety of ceramics for bathrooms; now there are more than 20 varieties, including glazed bricks and wall and floor bricks. The varieties are constantly increasing and the quality continues to improve.

Despite these developments, the construction materials industry is still a weak link in our national economy. At present, the quantity and varieties of most products are not keeping up with the needs, and that is why the construction materials industry departments must advance and develop in the process of readjustment in order to pave the way for laying a good foundation, and become the vanguard preparing still greater for national economic development following the readjustment.

Development of Cement Industry

China produced 73.9 million tons of cement in 1978, an increase of 13.3 percent over that of 1977. There are now 49 large and medium-size cement enterprises in operation. They have a total of 133 cement kilns, capable of producing 17 million tons of clinkers, and 210 cement grinders with a productive capacity of 27 million tons. In 1979, these cement plants produced a total of 24.72 million tons of cement, an 11.1 percent increase over that of 1978. More than 10 large and medium-size enterprises are under construction. Among them are Huaihai, Jidong and Ningguo plants which will use the new equipment of advanced world level that permits "decomposition outside the kiln."

There are more than 5,700 small cement factories in China. About 2,400 of them are owned by the whole people while some 3,300 are run by the communes and production brigades under the collective ownership system. According to incomplete statistics, these small factories produced a total of 47.73 tons of cement, a 12.2 percent increase over that of 1978. The building of these small cement factories was financed with locally raised funds under the spirit of self-reliance and hard struggle. They are growing along with the development of farmland capital construction and have made important contributions to the development of local industry and the increase of the economic power of the people's communes. In 1979, these small cement factories actively implemented the policy of "readjustment, restructuring, consolidation and improvement" by raising the quality of products, lowering the production costs and improving their management.

New Construction Materials

For hundreds of thousands of years, China mainly used bricks and tiles made of clay as materials for building houses. Along with the advance of science and technology, these materials are no longer adequate for China's large-scale economic construction and the improvement of people's housing requirements. Since the 1960's, China has carried out research on new materials to be used as the walls and the roofings, and established a number of experimental plants. Since 1975, there have been big developments in China's output of light frame-and-panel building materials, based on advanced foreign technology and better use of the country's natural resources. Other new building materials are: prefabricated reinforced concrete beams, plates, columns and pillars, to be used for the framework; gypsum board, aerated concrete, asbestos cement plates and reinforced concrete slabs to be used for the interior and exterior walls; mineral wool felt and plates to be used for sound and heat insulation; glass fiber felt, water-proof cement and "caulking oil tubes" to be used as water-proof materials for the roofings and exterior walls; and patterned and colored plastic wallpapers and glass fiber wall coverings to be used for decorating the interior walls. With these materials in addition to windows, finishing hardware, water, electrical and heating systems and toilet fixtures, we will be able to build integral houses which are not so heavy. With these new materials, again, experimental houses with a total floor space of more than 200,000 square meters were built in 1979. Displaying the spirit of self-reliance and hard struggle, Suzhou Municipality has remodelled and expanded the old construction material enterprises, and in slightly more than 1 year, set up a base capable of producing enough materials for 100,000 square meters of housing. Some 80,000 square meters of residential houses were then built. At present, Beijing is setting up a large new base, consisting mainly of imported production lines supplemented by local auxiliary equipment, to produce materials for 1 million square meters of housing. In Harbin, Wuhan and Shenyang, medium-size bases, capable of producing materials for 500,000-800,000 square meters of housing, are being established. Suzhou Municipality is also expanding a base producing materials for 200,000 square meters of housing, and Shijiazhuang is also building up a base of similar size. Wuxi Municipality is planning to build one with a capacity of 100,000 square meters.

Utilization of Wastes

One method to develop the production of construction materials is to utilize various types of industrial slag and other wastes, such as coal stones, coal ashes, and metal and furance slags as raw materials. Since the founding of the People's Republic, many research organs and processing factories have continued their study on the

use of slags and waste materials. Now, the following items are being produced as a result of successful experiments: bricks and blocks made of coal ashes; aerated concrete and ceramic particles made of coal ashes; and bricks, tiles and blocks made of gangue instead of clay. Lime and other slag from the furnaces are also mixed with cement to produce concrete. Large quantities of mixed materials made of furnace slags are being used. At present, approximately 300 million tons of industrial slag are discharged every year, and approximately 30 million or 40 million tons of them are used for making construction materials. In 1979, the construction material industry departments are making comprehensive use of more than 10 million tons of gangue. If this amount of gangue is used for heating, we can save 2 million tons of coal. Full utilization of these wastes will not only help us economize, but also promote the welfare of people by eliminating environmental pollution.

Chemical Industry

[Article by Li Nianguí [2621 1628 6311]]

General Description

China's chemical industry has developed rapidly. By the end of 1979, there were 7,362 large, small and medium-size chemical enterprises in China, including 302 key enterprises and 4,744 others owned by the whole people. The number of their workers and staff members was some 2.8 million.

In 1979, on the basis of summing up the practical experience in China's chemical industry, the Ministry of Chemical Industry formulated the production policy of "supporting others to develop ourselves" in an effort to serve agriculture, light and textile industries and the market by increasing the production of goods in demand and at the same time to develop the chemical industry itself. In the same year, the total output value of the chemical industrial system was 57.4 billion yuan, a 9.4 percent increase over that of 1978, and the profits handed over to the state increased by 11 percent over that of the previous year. State plans for 19 varieties of products were all fulfilled, and the plans for 14 of them were fulfilled 1 month ahead of schedule. The total national output of chemical fertilizer was 10.65 million tons, an increase of 22.6 percent; that of chemical insecticide was 587,000 tons, an increase of 0.8 percent; and those of caustic soda and soda ash, which were in short supply, were increased by 11.3 percent and 11.8 percent respectively, entirely through tapping the potentials of the old plants. The outputs of synthetic ammonia, calcium carbide, pure benzene, ethylene, paint, processed rubber and so forth were increased by 10 percent to 24 percent. The output of processed crude oil by the five large oil refineries was increased by 10.8 percent over that of the previous year.

Consumption of fuel, power and raw materials in the chemical industry was decreased by a wide margin in 1979, and outstanding success was achieved in energy conservation. The consumption index of the 10 key items designated by the state was lowered by 1-6 percent, and in the same year, 3.9 million tons of coke, 1.6 billion kwh of electricity, and 70,000 tons of oil were saved.

Readjustment in the Ministry of Chemical Industry began to show effects in 1979. Some enterprises having high consumption of fuel and raw materials, producing goods of inferior quality, and sustaining losses over a long time had to be suspended for consolidation; some 440 small factories and mines were closed, suspended, merged

with others or converted to other lines of production; and 39 large and medium-size projects were either halted or put off for the time being. Thanks to the concentration of resources, 38 single item projects were completed and commissioned in 1979 despite a reduction of investments.

The Newly Emerging Petrochemical Industry

China's petrochemical industry developed rapidly in the past 10 years as a new industry. By 1979, there were 28 key enterprises engaged in petrochemical industry, including the Yanshan General Petrochemical Company of Beijing, the Lanzhou Chemical Industry Company, the Shengli General Petrochemical Industry Plant of Shandong, the Yueyang General Chemical Plant, the Anqing General Petrochemical Plant, and the Guangzhou Petrochemical Industry Plant. In 1979, the output of ethylene was 435,000 tons; plastics, 793,000 tons; synthetic rubber, 120,000 tons; and synthetic fiber materials (including those of the textile departments), 200,000 tons. These outputs exceeded those of 1969 by 10 to several tens of times.

China's petrochemical industry began in the late 1950's. The first petrochemical industry enterprise--the Synthetic Rubber Plant of Lanzhou Chemical Industry Company--was founded in 1958 and commissioned in 1971. This was followed by the Dalian Organic Chemical Industry Plant with an annual output of 15 million tons of ethylene, and the Gaoqiao Chemical Industry Plant of Shanghai with an annual output of 67 million tons of ethylene, and several small petrochemical industry plants in Jiangsu, Liaoning and Jilin.

While speeding up the building of small petrochemical plants, a set of sand cracking equipment with an annual output of 36,000 tons of ethylene was imported from abroad in 1964. Then in 1973, another large equipment with an annual output of 30,000 tons of ethylene was imported. Throughout the 1970's, a total of 32 sets of petrochemical industrial equipment were imported, and these sets, combined with those designed, manufactured or built in China have contributed to the large-scale development of the petrochemical industry in China.

Petrochemical industrial products can not only meet the requirements in many fields, but also bring high profits to help the state accumulate more funds because of its high output value. In 1979, for example, the Yanshan General Petrochemical Plant processed 5.86 million tons of crude oil, and produced 1.74 million tons of gasoline, diesel oil, kerosene and lubricating oil, 227,000 tons of ethylene, 161,000 tons of polyethylene from high pressure process, and 41,000 tons of butadiene rubber, with a total industrial output value of 2.5 billion yuan and profits and taxes for the state totaling 1 billion yuan. In the same year, the Shengli General Petrochemical Industry Plant's total output value was 1,296 million yuan, with a total of 530 million yuan of profits and taxes.

Thirteen Sets of Large Chemical Fertilizer Equipment in Operation

During the Fourth Five-year Plan, China imported 13 sets of large chemical fertilizer equipment with a daily output of 1,000 tons of synthetic ammonia and 1,620 tons of urea. These sets have all been in operation since September 1979.

These 13 sets of chemical fertilizer equipment were manufactured with new technology of the 1970's, and their productive capacity amounts to one-fifth of the total national output of synthetic ammonia. The large backbone enterprises with modern

equipment, the 1,400 small and 50 medium-size nitrogenous fertilizer plants, have combined to form a nitrogenous fertilizer production network.

The 13 sets of chemical fertilizer equipment were separately installed in Sichuan Chemical Plant, Luzhou Natural Gas Chemical Plant, Yunnan Natural Gas Chemical Plant, Chishui Natural Gas and Chemical Fertilizer Plant of Guizhou, Daqing Chemical Fertilizer Plant, Liaohe Chemical Fertilizer Plant of Liaoning, Cangzhou Chemical Fertilizer Plant of Hebei, Chemical Fertilizer Plant No 2 of the Shengli General Petrochemical Plant of Shandong, Nanjing Qixiashan Chemical Fertilizer Plant of Jiangsu, Anqing General Petrochemical Plant of Anhui, Dongting Nitrogenous Fertilizer Plant of Hunan, Hubei Provincial Chemical Fertilizer Plant, and Guangzhou General Petrochemical Plant. With the exception of three sets which still have some problems, all the rest are of a high technological level and are quite dependable. They can utilize heat energy comprehensively and produce remarkable economic results. The main economic targets are up to, or close to, the same level of similar plants abroad. The annual output of synthetic ammonia of Sichuan Chemical Plant, Luzhou Natural Gas Chemical Plant, Yunnan Natural Gas Chemical Plant, Chemical Fertilizer Plant No 2 of the Shengli General Petrochemical Plant of Shandong, Daqing Chemical Fertilizer Plant, and Cangzhou Chemical Fertilizer Plant in 1979 was all more than 300,000 tons. According to statistics, the average energy consumption of these 13 sets of equipment for producing each ton of synthetic ammonia is 1,000 kilocalorie, and the production cost is relatively low.

Rapid Development of Small Nitrogenous Fertilizer Industry

China's small nitrogenous fertilizer industry has developed very rapidly and become a new force in China's chemical fertilizer industry. By the end of 1979, there were 1,452 small nitrogenous fertilizer plants in China, and more than 200 of them had annual output of more than 10,000 tons. Their total output of synthetic ammonia in 1979 was 7.31 million tons, or 55 percent of the total national output. The output of Zhejiang, Jiangsu, and Sichuan was more than 20 percent over that of 1978.

Because of the effective measures for reducing consumption, the average coal consumption for each ton of synthetic ammonia by these small plants was reduced from 3,257 kilograms to 2,750 kilograms, and power consumption was reduced from 1,765 units to 1,594 units. The production cost for each ton of synthetic ammonia was 450 yuan. In the whole country, 399 small nitrogenous plants made profits, and 37 of them earned more than 1 million yuan each. Taking both profits and losses and state subsidies into account, there was basically no deficit. The quality of products from these small plants have also improved, and the quality of carbonate ammonia and ammonian fluid produced by 22 provinces, municipalities and autonomous regions was 95 percent up to the standard. In 12 provinces, municipalities and autonomous regions, more than 80 percent of their products was rated as first class goods.

Small nitrogenous fertilizer industry began in 1958 in China. The Chinese method of production is unique. Because of the development of the small nitrogenous fertilizer industry, the amount of chemical fertilizer applied to each mu of farmland in China was 29.3 kilograms in 1978. Fertilizer application was further increased in 1979.

Fine-Quality Chemical Products

Fine-quality chemical products in China were greatly increased in 1979. In a national quality evaluation, 17 types of products were honored with the award of national gold and silver medals, and 237 others were rated as fine-quality products.

The fine quality of "Red Triangle" soda ash produced by Tianjin Soda Plant was up to the advanced world level. It is well-known at home and abroad for its purity and transparency after melting. It can be exported without further examination. The Gonglian Brand industrial ammonia bicarbonate of Dalian Chemical Plant is selling well at home and abroad. The Yanshan Brand butadiene rubber produced by Yanshan General Petrochemical Plant of Beijing has the fine quality of being elastic, wear-resistant and cold-resistant in addition to its bending strength and durability, and is extensively used in the production of tires, rubber belts, rubber hoses and other rubber products by more than 300 factories in the country. In 1979, it was put on trial sale broad, and was highly commended by foreign traders. The Youyi Brand 729 "inwardly pimpled" rubber paddles produced by Tianjin Rubber Research Institute have high elasticity and a high coefficient of friction with the ball. These five products won gold medals from the state.

The Beijing Brand chemical reagent, produced by Beijing Chemical Plant, is a fine quality chemical product prepared with meticulous care, to be used in scientific research and for analysis and tests in industrial and agricultural production, medical treatment and public health, culture and education, and various trades and professions, serving as a means of measurement and weighing. In the opinion of users, it is dependable, efficient and of good quality, and thus enjoys a good reputation at home and abroad. This product has had a history of more than 20 years and been exported to more than 20 countries and regions for more than 10 years. It is well received abroad because of its fine quality. The Tiangong Brand caustic soda produced by Tianjin Chemical Plant enjoys good reputation because of its high purity and fresh color, and is meeting a big demand in the home market. The solid caustic soda produced with the use of mercury has all along surpassed the national standard for first-class goods and well received by consumers at home as well as in Hong Kong, Macao, and the Southeast Asian regions. Both products won silver medals from the state.

The Three-Six-Nine Contest Organized by Ministry of Chemical Industry

In 1979, the Ministry of Chemical Industry organized a contest among three municipalities, six provinces and nine large enterprises (briefly referred to as "Three-Six-Nine" Contest), as an impetus to the campaign to increase production and practice economy. Among the participants of this contest were from the three municipalities of Beijing, Tianjin and Shanghai; the six provinces of Hebei, Shandong, Henan, Sichuan, Jiangsu and Hunan; and nine large enterprises, namely, the Jiling Chemical Company, the Lanzhou Chemical Company, the Nanjing Chemical Company, the Yanshan General Petrochemical Company of Beijing, the Shengli General Petrochemical Plant of Shandong, the Yueyang General Chemical Plant, the Quzhou Chemical Plant, the Dalian Chemical Plant and the Jinzhou Chemical Plant. The results of the contest were as follows: Beijing Municipal Chemical Industry Bureau was the champion among the three municipalities; Jiangsu was the champion of the six provinces; and Yueyang General Chemical Plant was the champion of the nine large enterprises. In the second half of 1979, the scope of the contest was expanded to include 10 municipalities affiliated with the provinces, namely, Chongqing, Wuhan, Nanjing,

Shenyang, Guangzhou, Qingdao, Luda, Xian and Harbin. The total chemical output of these three municipalities, six provinces, nine large enterprises and, together with the 10 province-affiliated municipalities, accounted for 72 percent of the total national chemical output, and their profits accounted for 86 percent of the total national profits. Improvement of these provinces, municipalities and enterprises means effective control of the key links and the improvement of the entire chemical industry.

The participants of the contest upheld the principle of "putting learning, helping and encouragement first and competition second." During the contest, they kept one another informed of their conditions of production, exchanged their advanced experiences and publicized their economic information. The surplus and shortage of materials among them were adjusted and some municipalities even helped promote the sale of one another's goods. This contest greatly helped some provinces and municipalities formerly having a weak foundation. For example, the output value and profit level of Xian Municipality before the contest were lower than those of the same period in 1978. After learning from the experiences of Changzhou, Chongqing and Wuhan, and by November, it began to catch up, and its output and profit level increased by 2.5 percent and 11 percent respectively over those of the same period in 1978.

Inspired by the "Three-Six-Nine" Contest, Sichuan, Jiangsu and other provinces have also held contests among their own municipalities, prefectures, trades and enterprises. These contests have played an important role in the fulfillment or over-fulfillment of the chemical production tasks for 1979.

Textile Industry

[Article by Li Anding [2621 1344 1353]]

General Description

China originally had a certain foundation for textile industry which has greatly developed during the 30 years after liberation. Now the textile industry includes wool, cotton and hemp textile and 10 more other trades, such as silk, chemical fiber, printing and dyeing, knitting, reproduction, textile machinery and textile materials. There are now 4,958 textile enterprises employing 3.1 million workers and staff members. For cotton textile, there are 16.6 million spindles and 510,000 looms, being 2-8 times those of the early post-liberation period. More than 120 cotton textile mills in the country have 50,000-100,000 spindles. The chemical fiber industry has developed from scratch and the amount of chemical fibers produced in China accounts for 9 percent of all its textile raw materials.

In 1979, the Party Central Committee and the State Council gave priority to the development of light and textile industries and gradually readjusted the proportionate relationship between light and textile industries on the one hand and heavy industry on the other. The state imported the required raw materials and some key equipment for developing the textile industry, and gave priority to this industry in the supply of power, fuel and raw materials. These measures have greatly helped promote the growth of the textile industry.

The total textile industrial output value in 1979 already accounted for 11.8 percent of the total national industrial output value, and was 9.5 times that of 1949.

State production plans for 10 major items, including chemical fiber, cotton yarn, cotton fabrics, printed and dyed fabrics, woolen fabrics, woolen yarn, gunny bags, silk and silk fabrics were all overfulfilled. The output of cotton yarn was 2.63 million tons, a 10.5 percent increase over that of 1978; that of cotton fabrics, 12.15 billion meters, a 10.2 percent increase over that of the previous year; that of chemical fibers, 326,000 tons, a 14.7 percent increase over that of the previous year; and that of silk fabrics, 663.45 million meters, an 8.7 percent increase over that of the previous year.

Many localities have paid great attention to the quality of products and launched campaigns to raise the quality and to produce brand-name products, besides holding various types of exhibition and sales meetings, meetings for the selection of samples before deciding on production, and the trial operation of retail stores to help improve the quality and increase the designs and varieties. The proportion of cotton yarn and cotton fabrics above grade 1 and first class in stock was 98.57 percent and 95.62 percent respectively, which were the best records in history. In the nationwide textile quality meeting, 113 varieties of products were formally recognized as brand-name products, while 38 other varieties won fine-quality prizes from the state.

Along with the developing production, production costs were decreased and profits increased. The annual taxes paid and profits earned increased by 15 percent over that of the previous year. Foreign exchange earnings from the export of textile goods also increased by 33 percent.

Outstanding achievements have also been won in tapping potentials and renovation and transformation of equipment. The new productive capacity in various trades and undertakings in 1979 is reflected in the following figures: 65,000 tons of chemical fibers, 600,000 spindles of cotton yarn, 400 million meters of printed and dyed fabrics, and 20,000 spindles of woolen yarn. Facilities were also set up for processing 1 billion meters of cotton fabrics, and 200 million cotton suits after the antishrinkage treatment; and the fast resin finishing of 400 million meters of cotton-decron fabrics.

A Number of Important Textile Projects in Operation

In 1979, active readjustment was made in capital construction for the textile industry of China in order to concentrate the available resources for the protection of key projects and to insure that they can be completed and commissioned. Thus nine large and medium-size projects, scheduled to be completely or partially commissioned in 1979, have been all completed and put into trial operation.

In June 1979, the Shanghai General Petrochemical Plant was formally taken over by the state and began its operation. This is a large complex mainly for the production of synthetic fibers with petroleum as the raw material. It is made up of two chemical plants, three fiber plants, one plastics plant with a total of 18 sets of equipment to form three production lines for ethylene, propylene and arene. Its designed final products are: chemical fibers, 102,000 tons; plastics of polyethylene from high pressure process, 60,000 tons; and some oil and chemical raw materials. Among these 18 sets of equipment, 9 of them were imported, while the remaining 9 sets and the other equipment for the thermopower plant, the water pumping station, the machinery repair plant and the sewage disposal plant were all made in China. In 1979, 80,000 tons of chemical fibers were produced by this plant.

Liaoyang General Petrochemical Fiber Plant is a large complex producing diversified varieties on a large scale. The main sets of technical equipment were imported from France, Italy and West Germany. There are altogether 23 sets of production equipment, and when they are all completed, there will be annual output of 86,000 tons of dacron material (polyester fiber); 45,000 tons of polyamide fibers (nylon 66 "monomer"); and 70,000 tons of plastics. By the end of 1979, more than 94 percent of the construction project was completed, and the plastic polyamide fibers and polyethylene produced were up to the standard. The dacron and polyamide drawnwork production line was also in trial operation. The Dandong and Acheng Dacron Mills, in collaboration with this project, were also completed and in operation.

After trial operation in several stages in the first half of 1970, the Sichuan Vinylon Mill, with a designed capacity of 45,000 tons of polyvinyl alcohol fibers, was able to complete the whole work process on 14 December, and produce up-to-standard polyvinyl ether and polyvinyl alcohol fiber. With natural gas as raw material, this plant has part of its chemical equipment imported from France and Japan.

Expansion of Textile Export

Textile products are a major Chinese export commodity, and account for more than 20 percent of the total volume of our export every year. For a long time, Chinese textile products have received favorable comments in the international market for their fine quality and reasonable prices. In 1979, the textile trade in various localities made great efforts in expanding their export and earning more foreign exchange by stepping up the cooperation between industry and foreign trade and increasing the production of textile goods for export. Foreign exchange totaling 2.9 billion dollars was earned from this source, being 32.57 percent more than that of 1978. Among these products, the export of silk brought an earning of 800 million dollars, an increase of 27.88 percent over that of the previous year. The volume of woolen fabrics exported doubled that of the previous year.

To meet the world market demand by increasing the export of medium and high grade goods, the textile trade strengthened the technical transformation of the enterprises with the addition or remodeling of 10,000 sets of looms which provide broader width. When all these looms are in operation, the proportion of fabrics of extra width will be increased from 30 to 40 percent in the exported fabrics. The textile industry also imported more than 600 sets of advanced equipment for spinning, weaving, printing and dyeing and finishing, and increased the production of medium and high grade textile products for export. Furthermore, all textile enterprises made great efforts to design new products and to introduce new varieties and fashions for their exported goods. Printed designs on silk and cotton fabrics have added to the features of oriental art. Even such minor items as handkerchiefs have overprinted floral designs, set off by embroidery, or a jacquard open weave with cutoff motifs. A number of enterprises have produced fabrics according to the customers pattern, or printed them according to the supplied designs. Their work is well received by foreign customers.

The packaging of exported textile products also showed remarkable improvement in 1979. Some garments are now exported in hang-up packs to avoid crease and others are in plastic packs giving a clear view of the contents. Some matched sets of fabrics are attractively boxed in transparent blister wraps for the convenience of customers and as a means of business promotion.

Textile Products Exhibition and Sales Meeting Held on National Day by 13 Provinces and Municipalities

A textile products exhibition and sales meeting was held in Beijing from 20 September to 10 October 1979 to celebrate the National Day. The participants were representatives from Beijing, Shanghai, Tianjin, Jiangsu, Zhejiang, Shandong, Liaoning, Sichuan, Hebei, Henan, Hebei, Guangdong and Shaanxi. The meeting was held in 11 department stores and drapery stores including Beijing Department Store, Dongfeng Market, Dongsì People's Market and Xidan Department Store.

The textile products on exhibition and for sale were cotton fabrics, chemical fiber fabrics, woolen fabrics, silk and so forth totalling 26 categories of 2,000 varieties and more than 6,000 designs. Some of them had won gold or silver medals from the state for fine quality. From Shanghai were woolen fabrics, silk quilt coverings and interior decorative curtains. There were also colored chemical fiber fabrics from Wushi, corduroys from Changzhou, silk from Suzhou and Hangzhou, dacron-wool fabrics with designs and pleated skirts with transferred printing from Beijing; sports shirts and dacron knitwears from Tianjin, printed fabrics and mercerized bed-sheets from Hubei, dacron knitted garments from Guangzhou; and so forth. All these items were welcomed by the customers.

This exhibition and sales meeting was jointly sponsored by the Ministry of Textile Industry and the Ministry of Commerce for the purpose of promoting textile production, raising the quality of products, increasing the designs and varieties, and enlivening the market on that festive occasion. The volume of business transacted during this period reached 6.83 million yuan.

Brand-Name Textile Products

From 17 to 26 July 1979, the Ministry of Textile Industry held a national conference on the quality of textile products in Anshan Municipality, Liaoning Province. In the conference, 113 products were formally designated as brand-name products of the textile industry.

These brand-names were given to products recommended by various localities after selections of the best among the best and subject to a final evaluation. Among these brand-name products were some long well-known products, such as the "Stork" 4040 poplin of Shanghai; the "Lotus Lantern Dance" corduroy of Changzhou; the "Snowy Lotus" woolen sweater of Beijing; the "Flying Child" Brand brocade from artificial silk of Beijing; the "Plum Blossom" 38-count fine-spun cotton sports shirt of Tianjin, the "Three Golden Cups" printed silk fabrics, and so forth. Among the new brands are the "Mandarin Ducks" bedsheets of Shashi, Hubei; and the "Plum Blossom" mulberry silk of Shanxi and Zhejiang. It was particularly gratifying that even some little known mills have also produced new brand-name products. Among them are the "Sweet City" 1818 grey cloth of Sichuan's Neijiang Cotton Textile Mill; and the "Burning Prairie" 4545 decron of Shaanxi No 11 Cotton Mill.

This was the first time of any brand-name being given after selection and evaluation in the textile trade since liberation as well as the first time in many years of some units being commended for their fine quality and the increased designs and varieties of their products. The criteria used by the Ministry of Textile Industry for the products to be qualified for brand-names are that the quality of products must be able to match up with that of similar products at home and abroad of the advanced

level; that the production of these items must have a history of at least 5 years; and that the products must have some unique feature. All the 113 products conformed to these criteria.

Progress of Self-Twisted Yarn Spinning

Self-twisting spinning is a new method of spinning at low speed but with high yield. Compared with the ordinary method of spindle spinning, self-twisted spinning can save 47.75 percent of power, while the output can be 15-25 times higher. The labor can also be reduced by a margin of one-third to one-half, and the area required can be reduced by 30-80 percent. Yarns of lower count can be produced out of the same raw material if this method is used.

Because of the above advantages, rapid progress has been made in the research and experiment of self-twisting spinning in our country since 1975. In 1978, the state conducted an appraisal of the plush self-twisting spindles, and in 1979, another appraisal was carried out on the use of self-twisting spindles for medium fibers. Using their own processing facilities, many localities in the country have designed and manufactured a large number of the required machines and by the end of 1979, there were 16 fairly large intermediate experimental, research and industrialized production centers. Their main products include plush, worsted, medium fiber, bulked acrylic yarn, and dacron-hemp. Among them, the production of plush, medium fibers, and dacron-hemp is no longer dependent on foreign wool. There are now high-count dacron-hemp materials, woolen fabrics with square designs, plush, bulked acrylic scarves, dacron-acrylic fabrics with designs, palace and imitation woolen sweaters, which are of good quality and selling well.

Thirty-Two National Technical Innovations Used in Transforming Nantong Cotton Mill No 1

[Article by Zhong Xiushi [6774 4423 1395]]

Nantong No 1 Cotton Mill of Jiangsu Province is one of the oldest mills built by China itself. The No 1 Spinning Workshop was built in 1889. Despite repeated transformations, it still failed to meet the requirements of production development or to reach the advanced world level. An overall transformation was carried out in 1974. According to the plan, the rebuilding of the mill should not interfere with its efforts to fulfill the production task. The project was to proceed in two stages and four sections, and, according to the original plan, should be completed in 1980. After the downfall of the "gang of four," and thanks to the leadership of the higher authorities, its operation began ahead of schedule in August 1977. An intermediate trial operation began in 1978 and the final appraisal was made in 1979.

The special features of this workshop are: a fairly centralized application of the 32 national innovations resulting in the use of new efficient techniques; better working conditions with reduced labor intensity; and higher labor productivity. During the intermediate test, the operation had reached the following technical levels: average per-unit output: 39.19 kilograms; and breakage: 20.2 strands/1,000 spindle-time; quality: 100 percent first class grade one; dust content: 2.51 milligram/cubic meter (maximum average of four workshops for carding, drawing, coarse and spun yarns not more than 3 milligram/cubic meter); labor required: 3 labor/piece (equivalent to 29.16 (20%) according to the Japanese way of calculation); electricity consumption: 273 kwh/piece. These levels are comparable to the Japanese mass production level.

Special technical features of the workshop: (1) Lower end-breakage rate, a broader view of the machine and 24-hour continuous operation (with half an hour's meal time assured for workers of each shift). (2) Automatic transport of semi-finished or finished products. (3) Workers operating the spindles using a sliding carriage instead of walking. (4) High speed, large-scale winding and continuous operation (cotton sorting: 500 kilograms/hour; carding: bobbin $\phi 406 \times 914$, 200 meters/minute; spun yarns: spindle speed 14,000-14,600 rotations/minute; shaping $\phi 44.45 \times 19$). (5) Workshop building with wide spans between pillars (between main pillars: 17.6 meters $\times$ 8.6 meters; between side pillars 13.4 meters $\times$ 8.6 meters), good lighting (area of skylights amounts to 25 percent of roof area); temperature variation as small as 1°C (wooden structure of house provides good air circulation).

Overall transformation of the workshop is of great reference value for the technical transformation of old factories and the building of new ones throughout the country.

Electronic Industry

[Article by Li Anding [2621 1344 1353]]

General Description

China's electronic industry has become a fairly complete new industrial system with different departments. According to the makeup of its products, there are consumer goods, means of production and products for civilian use as well as national defense. At present, the majority of electronic products are for civilian use, and its ratio is continuing to rise.

By the end of 1979, there were in China 285 units producing complete sets of radios and television sets, including more than 80 TV set plants. The equipment for voice broadcasting and television was then adequate for the requirements of radio and television stations and research and production of color TV equipment were successful. In 1979, China produced 1.33 million TV sets, being 2.57 times that of 1978, and 13.81 million sets of radio receivers, an increase of 18.2 percent over the number of 1978. The outputs of tape-recorders and gramophones were 2.8 times and 2.7 times those of 1978 respectively.

There are now approximately 730 varieties of electronic products as a result of the popularization and application of electronic technology in China. In 1979, the total output was more than 680,000 sets, including the sets used in civilian radio stations, telephone exchange equipment, telephones, pocket calculators and other electronic products for agriculture, forestry, industry, communications, culture and education, public health and various trades and undertakings.

The production of electronic computers in China has made fairly good headway since its inception in 1958. After a successful research, integrated circuit computers of the 100 and 200 series were in serial production in the past several years. The 100 series is a small type, and the 200 series is a large or medium-size type. In 1979, research and production of integrated circuit with 5 million operations per second were accomplished. Computers capable of 20 million operations per second is being trial produced.

The production of basic electronic products has also rapidly developed. Among them are electronic tubes, semiconductor articles and parts, integrated circuits,

electronic elements, electronic measuring instruments and special wireless equipment. There are 2,000 varieties of electronic elements, and the annual productive capacity is 3 billion pieces. There are more than 400 types of integrated circuits, and the annual productive capacity is 35 million sets.

In 1979, the quality of electronic industry in various provinces, municipalities and autonomous regions carried out serious readjustment and reorganization among their affiliated enterprises according to the principle of specialization and coordination with great success.

New Construction of Shaanxi Color Kinescope Plant

Construction of the Shaanxi Color Kinescope Plant, which will have the technical level of the 1970's, was started in April 1979 in Hanyang Municipality of Shaanxi Province, and the work is proceeding rapidly.

The complete set of equipment for this project was imported from Japan, while the auxiliary projects were undertaken by China itself. The construction site of this plant covers a total area of 3,400 square meters, and the plant will consist of four main workshops for the production of fluorescent powder, shading cover and glass, and for general assembling. This plant is comparable in scope to the fairly large enterprises of the same type in the world. It is estimated that this plant will be completed and ready for operation by the end of 1981. Then, its annual output will be 960,000 14-inch and 22-inch color kinescopes. The production techniques for these color kinescopes are based on a collection of all the fine features of foreign products. The kinescopes will have good clarity, brightness, contrast and color effects with low power consumption and good stability.

By the end of 1979, the main structure of the four main workshops had already been basically completed and sealed up, while the building and equipment of auxiliary workshops are being stepped up. After the completion of the plant's main structures, testing and adjustment of the equipment will be completed in March 1981.

National Evaluation of the Quality of Black-and-White TV Sets and Radio Receivers

In September 1979, the Fourth Ministry of Machine Building and the State General Bureau of Broadcasting and Television held in Nanjing the second meeting to evaluate the quality of black-and-white TV sets and the seventh meeting to evaluate the quality of radio receivers, and awarded prizes to the advanced units for the fine quality of their products.

Among the products evaluated were 91 types of transistor and electronic tube black-and-white TV sets produced by 56 enterprises and 197 types of radio receivers produced by 91 enterprises from various provinces, municipalities and autonomous regions. After a careful evaluation, 26 types of TV sets and 73 types of radio receivers won prizes.

There were 16 types of TV sets receiving prizes. Among the 9-inch sets were: "Feiyue [Flying Leap]," "Yingxiong [Hero]," "Xinghuo [Star-fire]" (2 types) and "Kaige [Triumphant Song]" brands of Shanghai. The 12-inch sets were: "Feiyue [Flying Leap]," and "Jinxing [Gold Star]" brands of Shanghai; "Xihu [West Lake]" brand of Zhejiang, "Juhua [Chrysanthemum]" and "Shenyang" brands of Liaoning; "Mudan [Peony]" brand of Beijing, "Kongque [Peacock]" and "Qingsong [Green Pine]" brands of Jiangsu; and "Qingdao" brand of Shandong. The 14-inch sets were

"Shaofeng [Peak of Shaoshan]" brand of Hunan, and the 19-inch set was "Feiyue [Flying Leap]" brand of Shanghai.

Prizes of the first order were given to 23 types of radio receivers. The foremost among them were: "Chunlei [Spring Thunder]" brand transistor radios of the second-grade and third-grade mesa types, and fourth grade of the pocket type; the "Hongdeng [Red Lantern]" brand radio with electronic tubes of the third-grade mesa type; the "Haiou [Sea Gull]" brand fourth-grade portable transistor radio of Shanghai; and "Xiongmao [Panda]" brand third-grade transistor radio.

This evaluation was very strict in its demands and was based on the practical needs of consumers and the dependability and stability of the products.

Light Industry

[Article by Shi Baohua [2457 1405 5478]]

General Description

China's light industry has developed steadily since the founding of the People's Republic, and is now an important industrial department with a fairly complete assortment of products, a rational geographical distribution and a fairly high level of production process. The total light industrial output in 1979 was 198 billion yuan, being 22.8 times that of 1949. The outputs of many light industrial products have increased rapidly. For example, the average annual output of wrist watches has increased by 64 percent; bicycles, by 25 percent; sewing machines, by 18 percent; synthetic detergents by 24 percent; photo-sensitive film, by 33 percent; and plastic wares, by 28 percent. The quality of many products continues to improve along with the increase of designs and varieties. The development of new light industrial trades has been phenomenal as shown by the production of synthetic detergents, synthetic fatty acid, plastic wares, synthetic leather, synthetic spices, wrist watches, optical glass, light-sensitive materials, household electric appliances and so forth. The development of these trades has filled a big gap in China's light industry.

Along with the growth of light industry, the export of Chinese light industrial products has also continued to increase. From 1950 to 1978, the average annual increase of foreign exchange earnings from the export of light industrial goods was 16.2 percent. In 1979, the amount of foreign exchange earned from the same source again increased by 24 percent over that of 1978. The volume of light industrial export amounted to one-quarter of the total national export.

In accordance with the policy of national economic readjustment in 1979, the state adopted a series of measures, such as increased loans, priority in the supply of energy and raw materials, and so forth, to speed up the development of light industry. In the same year, the total light industrial output value exceeded that of 1978 by 9.6 percent. For example, the output of machine-made paper and paperboard was 4.93 million tons, an increase of 12.3 percent; bicycles, 10.09 million, an increase of 18.1 percent; sewing machines, 5.87 million, an increase of 20.8 percent; wrist watches, 17.07 million, an increase of 26.4 percent; sugar, 2.5 million tons, an increase of 10.1 percent; and cigarettes, 13.03 million crates, an increase of 10.2 percent over the previous year's. The quality of products was generally raised. Among the 133 items produced by 122 key enterprises of 11 trades and examined by the Ministry of Light Industry, the quality of 118 or 89 percent of them

showed better results as compared with that of the previous year; 18 of them won gold medals and 27 others won silver medals from the state for their good quality.

New Light Industrial Products Actively Developed

In 1979, the light industrial departments of China attached great importance to the improvement of quality and the increase of designs and varieties, and light industry enterprises in various made great efforts in upgrading and replacing their products by increasing the production of new ones. More than 6,000 new varieties were trial produced in the same year. There were also 100,000 new varieties and new designs, and one-third of them have been in serial production.

Among these new products were bicycles with speed gears; electric multiple-purpose sewing machines capable of sewing 20 different designs; quartz wrist watches with a time difference of only about 1 or 2 seconds each day; small refrigerators of fairly low prices and suitable for the present standard of living in the country; automatic shutoff electric fans; thermos jars with a pumping cap; electric organs which can imitate the timbres of more than 20 foreign musical instruments and gives good resonance; the tasty and refreshing drink "Xingfu Kela [Happy Cola]"; the all-weather plastic umbrellas with attractive floral designs; and the enzyme laundry powder capable of removing sweat stains, milk stains and all dirt containing protein; and so forth.

The other important new products are: laundry machines, air conditioners, electric water heaters, electronic cigarette lighters, irons with regulated temperature, pocket warmers, micro-blowers and multiple-purpose hair-care appliances produced by the household electric appliances trade; the wide-mouth ice water jugs, wire glass tea sets, and enamel pans produced by the glass and enamel ware trade; the imitation drawnwork, wallpaper, rugs, decorative boards, TV enlarging screen and plastic wrapping sheets produced by the plastics trade; and the easily dissolved milk powder, easily dissolved bean-powder and easily served food items produced by the food trade, are all well received by the consumers.

Four Hundred Twenty-Five Light Industrial Products of Fine Quality

In 1979, the Ministry of Light Industry awarded certificates of fine quality for 425 products of 27 trades, including those of bicycles, sewing machines, garments, shoes and hats, musical instruments, plastic products, detergents, hardwares, household electric appliances, enamel and glass utensils, artistic work, paper and food.

Apart from those traditional brand-name products from Shanghai, Tianjin, Beijing and other large cities which had already won national medals for their fine quality, a large portion of these 425 products were produced in small and medium-size towns of various provinces and municipalities. They are, for example, the "Crystal" brand glass utensils of Hailan in Liaoning; the "Camel" brand enamel utensils of Xi'an in Shaanxi; the "Silver Lake" brand men's shirts of Wuxi in Jiangsu; the "Vanguard" brand badminton of Shaoxing in Zhejiang; the "Pigeon" brand plastic shoes of Fuzhou in Fujian; the dictionary paper of Huangxian County in Shandong; the "Pearl" brand buttons and buckles of oyster-shell color in Dangtu in Anhui; and so forth. All these products, which have won the certificate of fine quality, are in serial production, and are well received by the customers because of the fine quality of advanced levels at home and abroad.

Eighteen Famous Chinese Liquors

In September 1979, the Ministry of Light Industry held in Luda Municipality the Third National Meeting for the Evaluation of Liquors; and 18 different brands were rated as liquors of national fame.

These 18 brands include white wine, port wine, yellow wine and beer.

The white-wine category includes: Maotai (of Renhuai County, Guizhou), Fenjiu (of Xinghuacun, Shanxi), Wuliangye (of Yibin, Sichuan), Jiannanchun (of Mianzhu, Sichuan), Gujinggongjiu (of Boxian County, Anhui), Yanghe Daqu (of Siyang, Jiangsu), Dongjiu (of Zunyi, Guizhou), and Lacjiao Dequ (of Luzhou, Sichuan).

The famous port wines are: Red Port wine (of Yantai, Shandong), Chinese Red Port Wine (of Beijing); White Port Wine (of Shacheng, Hebei), Minquan White Port Wine (of Minchuan, Henan), Yantai Weimeisi (of Yantai, Shandong), Yantai Gold Medal Brandy (of Yantai, Shandong), and Zhuyeqing (of Xinghuacun, Shanxi).

The famous yellow wines are: Shaoxing Jiafangjiu (of Shaoxing, Zhejiang) and Longyan Chenganjiu (of Longyan, Fujian).

The famous beer is Qingdao Beer (of Qingdao, Shandong).

There are 47 others rated as fine quality liquors of China.

Construction Industry

[Article by Xu Yaozhong [1776 5069 0022]]

General Description

In 1979, all types of work under the General Construction Engineering Bureau of China made outstanding progress. The area of buildings completed by enterprises owned by the whole people and the collectives amounted to some 82.94 million square meters, and the value of the completed buildings and equipment amounted to some 12.28 billion yuan. Both the area and the value increased by a wide margin over those of the previous year. All localities attached great importance to the results of investments, with the result that the construction period was greatly reduced and the quality was generally improved. The main projects completed under the charge of the construction industry departments in 1979 are: the waiting hall in the International Airport of the capital, the Sichuan Vinylon Mill, the Shanxi Vinylon Mill, the Heilongjiang Dacron Mill, the Nanning Cotton Textile Mill, the Hankou Paper Mill, the Yueyang Paper Mill, the Yunnan Chemical Plant, the Shizuishan Power Plant, the Wuxi Movie Films Plant, the Zhanjiang Ocean Fishery Base, the Jinan Cold Storage, the Yunnan Observatory, the Henan People's Hall, the Harbin Stadium, the Yunnan Industrial College, the Xiangtan University, and the North China Agricultural College. In 1979, the construction engineering system paid particular attention to the construction of light and textile industries, electric power, coal and construction materials; and workers' dormitories and schools. It played an active role in strengthening the weak links of the national economy and improving the people's living conditions, and showed fairly good results in the construction projects connected with tourism.

Before liberation, China's construction industry was very backward. In the 30 years following the founding of the People's Republic, the construction industry departments have undergone great development and created a great deal of wealth for the state. In these 30 years, the value of their completed work amounted to more than 95 billion yuan, and some 670 million square meters of housing of various types were completed. At present, these departments have some 3.4 million construction workers, including 1.66 million for the enterprises owned by the whole people and 1.74 million for those owned by the collectives.

Overall Fine Quality Construction Contest

Construction engineering of fine quality, high efficiency, low production cost, and "civilized" work are called overall fine quality construction. The first unit to be so qualified was Beijing Construction Company No 6 in 1977. The State Capital Construction Commission, the State Labor Bureau, the All-China Federation of Trade Unions and the People's Construction Bank of China summed up the experiences of the Beijing Construction Company No 6 and held an overall fine quality construction contest among the three cities of Beijing, Tianjin and Tangshan with outstanding success. In 1979, after the establishment of the State General Construction Industry Bureau, the experiences of the overall fine quality construction contest continued to be popularized and many provinces, municipalities and autonomous regions, as well as construction bureaus affiliated with the General Construction Bureau continued to organize these contests. At present, the overall fine quality construction projects, formerly involving only thousands of square meters have been enlarged to involve tens of thousands of square meters, and the scope of these projects have developed from civilian construction to national industrial construction and from single-item construction to overall fine quality architectural complex. In 1979, Beijing, Tianjin and Tangshan completed more than 690 overall fine quality construction projects and the area of construction exceeded 1.74 million square meters. Shanghai completed 567 such projects with a total area of 940,000 square meters, and the overall fine quality construction projects completed by Liaoning, Sichuan, Hunan and Jiangsu, and the No 1 and No 3 Engineering Bureaus directly affiliated with the General Construction Bureau amounted to 20 percent of all the construction projects in these areas.

Changzhou and Nanning as Experimental Cities of Construction Industrialization

The industrialization of construction in China is still in the experimental stage. Experiments in Changzhou Municipality of Jiangsu Province and Nanning Municipality of Guangxi Zhuang Autonomous Region, the two key cities, have been an initial success.

In Changzhou Municipality, experiments of industrialization were carried out mainly on one-story factories, with 34 types of molded boards, 43 types of structural parts and 16 types of units, all of finalized designs. The outer walls are made of large prefabricated panels. All these can be organized to form production workshops to meet 322 different requirements. The weight of this type of structure, the labor involved, and the construction period were reduced by 15 percent, 20 percent and more than 50 percent respectively. Under this system of construction, the labor productivity in the construction units of Changzhou Municipality can be raised by 33 percent, and the average area of completed work by each person is more than 3.79 times that of the national average. The speed of construction is also increased, and the building of factories of 10,000 square meters takes only 7 months.

In Nanning Municipality, experiments are carried out mainly on the construction of residential houses with large hollow concrete slabs. These slabs are of great technical and economic value, because it requires only simple production process and can be undertaken with indigenous methods and quickly completed. Generally, a 6-story building can be completed in 3 months. The industrialization of large concrete slab houses is beginning to take shape, and serial production is now possible. In 1979, a floorspace of more than 110,000 square meters was built, being 43.6 percent over that of 1978. The structural parts produced in 1 year can be used for building 200,000 square meters of residential housing. Special teams for this type of building have been organized and each person can complete 107 square meters of floorspace of the value of 10,200 yuan.

Several Systems of Construction Industrialization

In 1979, four different systems of industrialized construction suitable for China's characteristics were developed.

1. The large mold plate system. The method is to build the walls with the in-situ concrete method. At present, there are three types of houses built this way: in-situ concrete for the interior walls and bricks for the outer wall (called "in-situ interior and brick exterior"); in-situ concrete for the interior walls and prefabricated boards for the exterior walls; and in-situ concrete for both interior and exterior walls (called "complete in-situ"). The advantages of this type of structure are: good technical and economic results; high efficiency work; less investments; simplicity of method; and ability to withstand earthquake. This system is being used in 16 provinces, municipalities and autonomous regions, and in 1979, some 1.5 million square meters of floor space were completed throughout the country. According to statistics in Beijing, Tianjin, Shaanxi, Jiangsu and Liaoning, there is now a productive capacity for 4.8 million to 5.5 million square meters of large mold-plate multiple-story houses.

2. The system of large board construction. Under this system, large prefabricated wall boards are assembled on this spot. This method is being used in 26 provinces, municipalities and autonomous regions, and some 850,000 square meters of floorspace was completed throughout the country in 1979. This type of structure is largely built in the form of assembling. Therefore, not much on-the-spot labor is required, and the work can be quickly completed. Since it is little affected by seasonal changes, this method is particularly adapted to cold regions where construction of this type can go on throughout the year.

3. The system of frame-and-panel construction. Prefabricated or in-situ pillars or wooden pillars are used to support the weight of the structure, and gypsum boards, cinder boards, asbestos boards, aerated concrete and compound boards of light weight are used as materials for building the walls. In 1979, some 270,000 square meters of frame-and-panel houses were built throughout the country, and in Suzhou, Jiangsu Province, the first base with a productive capacity of enough materials for building 100,000 square meters of frame-and-panel houses each year has been established. The advantage of the frame-and-panel house is that the structure itself is light and can be easily put up. This system of construction is being tried out in 11 provinces, municipalities and autonomous regions.

4. The system of block construction. The blocks used are made of concrete, coal cinder, gangue and other industrial wastes, and the use of these blocks to build walls is a simple way of industrialized construction, or an improvement upon the use of clay-brick and concrete. The making of blocks is fairly simple, and the production cost is low. Since there is a great deal of industrial wastes to be used, this system of construction can be used in any place. Hence it can be easily popularized. In 1979, some 1.07 million square meters of this type of housing was completed throughout the country. According to incomplete statistics, there are now more than 100 block manufacturing factories in 13 provinces and municipalities with a productive capacity of 1 million cubic meters.

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TRANSPORTATION, POSTS, TELECOMMUNICATIONS SURVEYED

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[Text] Railways

Railway Construction in China

Since the state was founded, China's railways have undergone 30 years of construction and redevelopment and have begun to constitute the framework of a national railroad network.

In a 73-year period in old China, only somewhat more than 20,000 kilometers of railroads were built. Their design was obsolete and backward, and most of the routes were in coastal regions, which was an extremely irrational layout of the network. Since the state was founded, and under unified state planning and management, by the end of 1979 the nation (excluding Taiwan Province) had 51,523 kilometers of railroads in operation (including some local railways). In addition, there were 6,287 kilometers of newly constructed two-track lines, 1,031 kilometers of electrified railway, and 42 newly constructed or expanded rail centers. The southwestern and northwestern regions, which in the past were traffic bottlenecks, now have the newly constructed Cheng-yu [Chengdu-Chongqing], Bao-cheng [Baotou-Chengdu], Lan-xin [Lanzhou-Xinjiang], Chuanqian [Sichuan-Guizhou], Guikun [Guilin-Kunming], Chengkun [Chengdu-Kunming], Xiangyu [Xiangfan-Chongqing] and Xiangqian [Hunan-Guizhou] lines, so that railroads west of the Beijing-Guangdong rail line have increased their share of total mileage from 19.5 percent in the early days of the state to 45.3 percent, and are making an active contribution to improving China's railroad network situation and to linking together coastal and border transportation. Now every province, municipality and autonomous region with the exception of Tibet has railways.

In the 30 years since the founding of the state, China has built 24,526 kilometers of railroads (mainline track laying), an average of 817.5 kilometers a year; in busy double track sections more than 5,800 kilometers of automatic block signal lines have been constructed, a length equivalent to 11 percent of the total mileage in service nationwide; on the main trunk lines, 1,432 electrified marshaling yards have been constructed.

During the construction process, many new technologies, designs and materials have been popularized and utilized, which has made a major contribution toward improving rail line quality and transport efficiency. The completion and opening of the

Chengdu-Kunming railway and the Nanjing railway bridge over the Yangtze marked the attainment of a new level by railroad construction in China. At present the length of rail lines in operation has increased by 1.3 times over the mileage shortly after the state was founded.

Railway Transport in 1979

In 1979 in railway transport departments overfulfilled their annual state transport assignments and new records were set in both passenger and freight transport.

The total number of passengers carried was 856 million, which was 104.4 percent of the planned figure for the year and 6 percent above the previous year's figures; the overall passenger turnover figure was 121.4 billion passenger-kilometers, up 11.3 percent from the previous year; the average distance traveled per passenger was 142 kilometers, an increase of 7 kilometers over the previous year.

As the work of national economic readjustment has proceeded, railroad freight hauling has turned over a new leaf. The share of such long-haul commodities as coal has increased, the national commodity transport figure has reached 1.094495 billion tons, 101.4 percent of the planned figure for the year, and up 1.9 percent from the previous year; every day the entire system loads 62,789 railcars, an increase of 555 cars from the previous year; the freight turnover figure for the entire system was 558.8 billion ton-kilometers, an increase of 4.8 percent over the previous year; the average commodity haul was 510 kilometers, 14 kilometers longer than in the preceding year. The commodity turnaround time for the entire system was 3 days.

Railroad transport has been implementing the policy of assigning priority to agriculture, light industry and heavy industry in that order, and has given preference to transport of agricultural support commodities, light industrial and market goods, and foreign trade and export goods, and has made a vigorous effort in critical commodities such as coal, obtaining rather good results. The quantity of coal dispatched in the entire system was over 410 million tons, 1.5 percent above the annual plan figure. Some 60 million tons of coal were shipped out of Shanxi, a record year's figure, and the total quantity of coal shipped to the Northeast was almost half again as great as in the preceding year, reaching 10 million tons. The overfulfillment of the coal transport targets produced a warm situation in industrial and domestic use of coal. The quantity of smelted materials dispatched was more than 20 million tons, equivalent to 103 percent of the annual plan figure, and equivalent to the actual figure for the previous year. The amount of petroleum shipped was over 59 million tons, 105.9 percent of the annual plan figure, but 3.1 percent below the previous year's figure. The amount of wood products hauled was over 39 million tons, 104 percent of the annual target, and the quantity of wood products shipped in from the Northeast was over 10 million tons, up 500,000 tons from the previous year. Transport of such agricultural, light industrial and agricultural-support commodities as grains, chemical fertilizers and agricultural pesticides, agricultural tools, fresh perishables, daily-use manufactured goods and miscellaneous items was up from the previous year, while transport of export commodities increased by a third.

Compared with 1950, passenger transport for the whole system in 1979 was up 4.5 times, and passenger turnover had increased by 4.7 times. The amount of freight hauled up was 10 times, and freight turnover had increased 13 times. Currently

railroads account for 61.7 percent of the total passenger transport turnover by modern transport facilities nationwide, and 51.3 percent of total freight turnover. Rail transport represents a main component of China's unified socialist transport network, and has an absolute majority of numbers of passengers and quantities of freight transported.

Not only are passenger and freight transport quantities increasing, but the quality of transport work has clearly improved. In 1979 the on-time departure rate for Chinese passenger trains was 99.1 percent and the on-time rate in transit was 92.9 percent, an increase of 0.2 percent over the previous year; the on-time departure rate for freight trains was 92.8 percent and the on-time rate for freight trains in transit was 89.4 percent, an increase of 2.2 percent over the preceding year.

There has been considerable progress in safety, with a 13.6 percent decrease in grave and serious accidents from the previous year; the number of grave and serious accidents in freight transport was down 58.4 percent from the previous year.

At the end of 1979, the total operating railroad mileage nationwide was 49,808 kilometers. These rail lines belonged to 20 railroad bureaus: Chichihar, Harbin, Jilin, Shenyang, Jinzhou, Beijing, Taiyuan, Huhehot, Jinan, Zhengzhou, Wuhan, Xi'an, Shanghai, Nanchang, Guangzhou, Liouzhou, Lanzhou, Chengdu, Kunming and Urumchi.

Railroad Capital Construction in 1979

In 1979 railroad construction adhered to the policy of readjustment, and technical redevelopment of existing railroads was made the focus of readjustment. During the year there were 61 medium and large new and continuing construction projects, including new construction of 8 double track lines among them the Jinpu [Tianjin-Pukru], Beijing-Guangzhou and Jiaoji [Jiaozhou-Jinan] railroads; 5 electrified railroads including the Shitai [Shijiazhuang-Taiyuan], Longhai [Gansu-Qinghai] and Xiangyu lines; the construction of 5 rail centers including those in Beijing and Wuhan; and 3 joint projects including the Baoshan Steel Mill in Shanghai; and continued construction work on 27 projects including the Wangan [Anhui-Jiangxi], Zhiliu, Shatong, Qingzeng [Qinghai-Tibet railway] and Jiujiang Yangtze River railway bridges as well as some other engineering projects. Of the large and medium projects, the 192-kilometer double track section of the Longhai railroad between Zhengzhou and Shangqiu was handed over and put into operation; the 70-kilometer double track section of the Shide railroad between Tuxianzhuang and Xincheng was completed and put into operation; the southeastern link of the Beijing rail center was put into operation; the 120-kilometer electrified section of the Shitai railroad between Shijiazhuang and Yangquan was essentially completed; the 170-kilometer section of the Fuqian line between Fulidun and Jiansanjiang was ready to be handed over; and the track was laid and put into operation on the Qingcang [Qinghai-Xizang] line as far as Golmud. In addition the Shuangqiao dispatching yard of the Beijing rail center, the new Wudong marshaling yard of the Wuhan center and the dispatching yard of the Shijiazhuang center have all been handed over and put into operation.

In the past year [1979], 21.9 kilometers of bridges and 19.3 kilometers of tunnels were completed and 875 kilometers of new main trunk and branch lines and 215 kilometers of double track lines were constructed.

Construction of Electrified Rail Lines

In order to increase railroad transport capacity, to make comprehensive use of motive power resources, to decrease environmental pollution and to achieve the aims of low investment and high effectiveness, in 1958 China began the construction of electrified railways. By the end of 1979, two electrified railroads had gone into use, with a total length of 1,031 kilometers. In addition, 5 electrified railways with a total length of 2,274 kilometers are under construction.

The electrified lines which are already open are: the Baocheng railroad from Baoji in Shaanxi to Chengdu in Sichuan, with a total length of 670.7 kilometers; and the Yangan railroad, which starts at Yangpingguang in the central section of the Baocheng electrified railroad and ends at Ankang in the central section of the Xiangyu railway, a total length of 356.7 kilometers. The Longhai line is 3.5 kilometers long.

The electrified railways under construction are as follows:

1. The Shitai railway. Extending from Shijiazhuang to Taiyuan, with a total length of 235 kilometers, this is an east-west, double track modernization project. The electrification of the 120-kilometer section between Shijiazhuang and Yangquan had been essentially completed by the end of 1979, and it requires only application of electric power in order to go into operation.

2. The Xiangda railway. This extends from Xiangfan in Hubei to Daxian in Sichuan, a total of 646 kilometers. This is a section of the Xiangyu railway, an east-west trunk line; in 1979 the electrification equipment was installed on the 362 kilometer section between Xiangfan and Ankang.

3. The Baolan railway. This extends from Baoji in Shanxi to Lanzhou, a total of 511 kilometers. In 1979 the electrification equipment was installed on a 158-kilometer section from Baoji to Tianshui; roadbed improvements are under way on the section between Tianshui and Lanzhou.

4. The Chengyu railway. This extends from Chengdu to Chongqing, a total of 505 kilometers. The electrification facilities are being designed and roadbed improvements have begun.

5. The Fengda railway. This extends from Fengtai, Beijing City, to Datong, Shanxi, a total of 377 kilometers. The electrification facilities are being designed, and roadbed improvements are under way.

When these five new electrified lines are complete, China will have more than 3300 kilometers of electrified lines, including a 2,700 kilometer electrified network in the southwest and northwest, while construction of the electrified Shitai and Fengda lines in North China will double transport capacities.

The Qinghai-Xizang Railway

The Qinghai-Xizang Railway is an important trunk line linking China proper with the frontier regions, with a total length of 2,049 kilometers. As of the end of 1979, track for this line had already been laid past Ge'ermu, and a total of 846 kilometers was in operation.

The Qinghai-Xizang Railway begins in Xining city, Qinghai, and passes through Gangcha, Delingha, Golmud, Neichitai, Tuotuohe, Anduo, Naqu, Dangxiong, Linzhou and Mozhugongka to Lhasa, the capital of the Tibetan Autonomous Region. It passes through the Tsaidam Depression, and crosses such important mountain ranges as the Kunlun, Fenghou, Tanggula and Nianjing Tanggula ranges and such main rivers as the Ge'ermu, Chuma'er, Tongtian, Tuotuo and Lhasa rivers; much of the railroad is located in the Qinghai-Tibet Plateau, the "ridgepole of the world"; it is at an altitude of 4,000-5,000 meters for more than 930 kilometers of its length, so that it is the highest altitude railroad in the world.

The engineering geology of the right of way is rather complicated. In the southern part of the Tsaidam Depression there are a series of deserts, salt lakes, salinized soil areas and sand dunes; in the plateau area there is more than 570 kilometers of permafrost; and between Nuoqu and Dangxiong the basic earthquake intensity is 9 to 10. In addition, the air is thin over a large proportion of the route, the climate is severe and changeable, and the engineering difficulties have little precedent in world construction experience.

Utilization of Locomotives and Rolling Stock

Locomotives. At the end of 1979 the country's railroads had a number of locomotives 1.5 times greater than shortly after liberation. To aid in locomotive utilization and inspection and repair, locomotive types were decreased from 175 shortly after liberation to 54.

Initially steam locomotives were used for fast passenger trains on the main Changda, Shenshan, Jingshan, Jingguang, Jinpu and Huning lines, but they have now been completely replaced by internal combustion locomotives.

Because of the steady increase in the number of internal combustion and electric locomotives, some maintenance sections under the Guangzhou, Xi'an and Chengdu railway bureaus have begun experimenting with use of the "changjiao lu lunchengzhi;" [literally, long-distance transport rotational hauling system].

Internal combustion locomotives are already in use for passenger trains on the Chengdu-Kunming, Guizhou-Kunming, Qiangui [Quizhou-Guangxi], Guangjiu [Guangzhou-Jiulong], Nenlin, Jingyuan and Huning railways.

Internal combustion engines are also in use with freight trains on some sections of the Jingshan, Jingbao, Jingguang, Jinpu, Chuanqian, Lanxin and Jiangyu railways.

All passenger trains are pulled by electric locomotives on the Baocheng and Yang'an railways.

The weight of freight trains hauled on such main trunk lines as the Shenshan, Jingshan, Beijing-Guangzhou, Jinpu, Tongtuo and Huning lines has been increased from 1,600 tons shortly after Liberation to 3,500 tons, and an excess of 85 million tons was hauled during the year.

The daily distance traveled by freight engines was 412 kilometers, an increase of 8 kilometers from 1978; the average output was 723,000 ton-kilometers, up 9,000 ton-kilometers from 1978; locomotives consumed 109.5 kilograms of coal per 10,000 ton-kilometers, a decrease of 4.6 kilograms from 1978; the oil consumption of

internal combustion locomotives per 10,000 ton-kilometers was 35.7 kilograms, a decrease of 1.9 kilograms from 1978; electric locomotives consumed 132.6 kilowatt-hours per 10,000 ton-kilometers, down 3 kilowatt-hours from the 1978 figure. Some 1.38 million tons of coal, 66 tons of diesel oil and 12 million kilowatt-hours of electricity were conserved during the year.

Railcars. 1. Passenger cars. At the end of 1979, the entire system has 2.9 times more passenger cars than shortly after Liberation. Since 1961 there has been a decrease from 38 models and 299 types to 30 models and 171 types. Currently express, through and fast trains all now use the new domestically produced models 22 and 23. Some 10,698 of the system's passenger cars, or 71 percent of the total number, have their own heaters and water heaters. Some 13,228 passenger cars are now fitted with ball bearings.

In order to maintain safety on passenger trains, the system of distributed responsibility for car maintenance is used in current maintenance and servicing, and every train carries a train inspector who is responsible for train safety from the point of origin to the destination. It is also required that 2 major servicings and quality inspections be performed every year, in the spring and fall. Grave and major accidents have now been eliminated for a total of 2 years 9 months, and the number of minor accidents has been steadily decreasing year after year, resulting in excellent operating safety (historically, a high quality level has been 0.85 accidents per hundred cars, while in 1979 the figure was 0.45 accidents).

2. Freight cars. At the end of 1979, the entire system had 4.6 times more freight cars than shortly after Liberation, including an increase of 2.3 times in boxcars and 5.2 times in flatcars. Some 15.9 percent are 30-40 ton cars, and 82.2 percent weigh 50 tons or more. The average nominal weight per car has increased from 32.3 tons shortly after Liberation to 50.6 tons, i.e. by 56.6 percent. The freight car overhaul rate has increased from 13.5 percent shortly after Liberation to 2.7 percent [as published]. The average accident rate is 0.33 accidents per 10,000 car-kilometers, down by 1.42 accidents from the figure of 1.75 shortly after Liberation, and representing a decrease to 19 percent of the earlier figure.

Repair and Construction of Railroad Rolling Stock

In 1979 the plants of the railroad rolling stock industrial system fulfilled or overfulfilled all of their railroad rolling stock in-plant repair and new construction targets. Output of new electric and steam locomotives and passenger cars and repair of internal combustion locomotives increased over last year. The output for these four areas was a record for the last 20 years (the output of various areas is shown in the table).

The total industrial output value for the year was 1.733 billion yuan, 109.4 percent of the planned figure, and 22.1 percent above the record level of 1975.

In order to meet the needs of modernization of railroad transport, the various plants have also made an energetic effort to develop new products. The Sifang and Puzhen plants developed three different air conditioned passenger-train cars (including a parlor car, a dining car and a generator car) for the Guangzhou-Jiulong passenger route. The cars are 25.5 meters long and use such new technology and materials as a high-speed wheel truck design, a low-alloy unitized load-bearing chassis design without a central beam, and rubber shock absorbers. The Wuchang

plant has produced the new model B19 mechanical refrigerator car, whose design has been finalized following ministry-level evaluation, setting the stage for lot production. The Chichihar plant has experimentally developed a 75 ton capacity flatcar and a 450 ton long-bodied car for large items. The Qishuyan plant has produced a grain hopper car. In addition, the Chichihar plant, the Harbin plant and the Xi'an plant have produced various types of narrow gage freight cars (for the Kunming railway).

Repair and Construction of Railroad Rolling Stock in 1979

Product	Actual	Actual as Percentage of Plan
Steam locomotives	2,999	102.2
Internal combustion locomotives	333	104.1
Repair		
Passenger coaches	2,446	101.1
Freight cars	41,686	101.1
Cranes	347	100.6
Steam locomotives	311	103.7
Internal combustion locomotives	222	100.9
Electric locomotives	40	100.0
New construction		
Passenger coaches	856	100.7
Freight cars	16,042	100.8
Cranes	70	100.0

The axle bearing production line imported by the Nankou Rolling Stock Mechanical Plant has already gone into trial production, and has created the conditions for speeding up the equipping of freight cars with ball bearings.

Railway Communications Signals

In 1979, China's railroads already had 9,066 kilometers of long-distance communications cable, accounting for 16.7 percent of all the country's railway signaling lines. There are a total of 170,000 local telephone sets.

A wireless dispatcher's telephone for train operations officially went into trial production in 1975 and had its design finalized; by 1979 there were about 2,071 fixed sets and 4,394 sets on locomotives. Currently, wireless dispatcher telephone equipment is in use on 9,000 kilometers of railroad.

In order to meet the speed and density requirements of various types of transport, the block equipment on Chinese railroads is mainly automated, semiautomated or sign or semaphore type. In 1979 there was a total of 5,997 kilometers of automated block

signaling systems and 36,185 kilometers with semiautomated blocking systems. The automated blocking systems are primarily of the frequency-shift, extra-high frequency, and AC counter types. The semiautomated blocking systems are Chinese-produced model 64 continuous-current semiautomated equipment.

To assure traffic safety, to increase traffic efficiency and to bring train marshaling and breaking down capabilities into play, in 1979, 75 electric marshaling yards, 2 mechanical hump marshaling yards and 7 simple hump marshaling yards were constructed. By the end of 1979 the country's railroads had 1,432 marshaling yards; 3 semiautomated hump marshaling yards, 15 mechanical hump marshaling yards, 31 non-mechanical hump marshaling yards and 56 simple hump marshaling yards.

The country has 907 kilometers of dispatching and marshaling facilities, 729 kilometers of which are electrical, while the rest are extra-high frequency types. There are 215 kilometers of dispatcher-overseen track.

Railroad Track

In 1979 China's railroads replaced 2,507 kilometers of track, so that 41 percent of single lines had 50-kilograms per meter. In 1954 Chinese iron and steel enterprises began producing their own steel track, gradually unifying the gage standards. The heaviest steel track is the 60-kilogram type (now beginning to be laid experimentally), followed by the 50-kilogram and 43-kilogram types. Steel track materials include carbon steels, medium-manganese steel and high-silicon steel. Switch designs include models No 9, No 12 and No 18. They include the tandem standard frog, high-manganese cast frog, ordinary curved arm and special-section arm designs.

In 1979, 638 kilometers of seamless track was laid. China started laying seamless track in 1957, and has now laid 7,200 kilometers. The method of welding seamless rail is that in the plant, gas pressure welding or contact welding is used to produce 200-meter or 250-meter rails, which are moved to the project site and welded into 1,000-meter rails with thermite.

In 1979 3.25 million prestressed concrete ties were laid. They were first produced in 1956, and currently 46.34 million have been laid, including 41.23 million on single-track lines, accounting for 45 percent of all those on such lines. All other ties are made of wood; they have been oil treated by domestic treatment plants.

In order to adapt to high traffic densities, track maintenance uses lightweight devices including a small hydraulic tamper, an electrical tamper and hydraulic tools. Large hydraulic tampers and ballast washing sieves are used only when lines are closed for major overhaul.

Highways

Highway Construction and Traffic

Shortly after Liberation, China only had 80,000 kilometers of highway, mostly in the flat or hilly areas of the Southeastern coastal provinces, while mountain areas and border minority areas which account for more than two-thirds of the country's total area had almost no highways.

After New China was founded, 30 years of energetic construction followed, and by the end of 1979 the operating highway mileage had reached 890,000 kilometers. A highway system centered on Beijing which linked the capitals of all the provinces, joined all the harbors and rail centers and reached into the vast countryside was beginning to take shape.

In 1979 total goods transport turnover on the nation's highways was 26.8 billion ton-kilometers, a decrease of 2.2 percent from the 1978 figure of 27.4 billion. This decrease resulted because the industrial and commercial enterprises increased their own hauling capacities and the transport departments' haulage work decreased; but compared with 800 million ton-kilometers in 1949, this was an increase of 33.5 times. Passenger turnover was 60.3 billion passenger-kilometers, an increase of 15.7 percent over the 1978 figure of 52.1 billion, and an increase of 65 times over 1949.

Not only has the number of highways increased rapidly, but their quality and technical condition have also been considerably improved. Shortly after Liberation the vast majority of highways could not meet any classification standard, the roadbeds were low-lying, subject to waterlogging, and narrow, there was a shortage of bridges and culverts, and there were sharp turns and steep slopes. Now, many highways have met the standards for the 4 state classifications. Most trunk highways have attained class 3. Some important trunk highways are being reconstructed to class 2 status. By the end of 1979, there were 143,000 kilometers of asphalt and oiled roads, 454 times the 315 kilometers that existed shortly after Liberation. Class 1 roads are being built on the access routes to large and medium size cities and between large and medium cities. Those which had been built and were in operation in 1979 included the following: The Beijing-Miyun Highway is 39.1 kilometers long, with a roadbed 25 meters wide and a 2-meter-wide median strip, both highway surfaces 10.5 meters wide and a shoulder 1 meter wide. The Shenyang-Fushun Highway is 27 kilometers long and 29 meters wide, with a highway surface 25 meters wide, and has a total of 6 lanes. The Nanjing-Liuhe highway is 24.7 kilometers long and the roadbed is 23 meters wide, with a 1.5 meter median, 10-meter-wide road surfaces and 0.75-meter shoulders. This is a high-speed divided highway. The Nanjing-Liuhe highway is 24.7 kilometers long and the roadbed is 23 meters wide, with a 1.5 meter median, 10-meter-wide road surfaces and 0.75-meter shoulders. This is a high-speed divided highway. The Nanjing-Liuhe highway can carry 17,500 vehicles a day, a capacity more than 2 times greater than older roads. The new road has reflective lane markers for the convenience of vehicles traveling at night. These 3 class 1 highways are the beginning of China's high-speed highway construction.

In the 36 years since the state was founded the roads that have presented the greatest engineering problems have been the Qinghai-Tibet highway and the Sichuan-Tibet highway. The Qinghai-Tibet highway passes from Xining through Chaka, Xiangride and Golmud to Lhasa in Tibet, the "ridgepole of the world," through the Qinghai-Tibet Plateau, with an altitude of over 4,000 meters, and crosses the upper reaches of the Yangtze River and the Kunlun and Tanggula mountain ranges, among others, extending a total of more than 2,100 kilometers. The Sichuan-Tibet Highway passes from Chengdu through Yaan, Ganzi and Manigange to Lhasa, passing over the Erland, Zheduo and Queer Mountains and the Daduhe, Jinshajiang, Lancangjiang and Nujiang rivers. Its average altitude is over 3,000 meters, and it is a total of over 2,400 kilometers in length. These two highways are important lines of communication between Lhasa, the "ridgepole of the world," and China proper, and each of them took 3 or 4 years to construct, presenting engineering difficulties practically

unprecedented in world highway building. The road surface of the Qinghai-Tibet highway is being continually upgraded to an oiled surface.

Highway Bridges

By the end of 1979, there were about 128,000 highway bridges in China, with a total length of more than 3 million meters, 93 percent of them permanent bridges. Many major highway bridges have been built over large rivers where bridge building is difficult. More than 30 bridges have been built across the Yellow River, including China's longest highway bridge, the Loyang Yellow River Bridge in Henan, which is 3,429 meters long. In 1979 a 5-span continuous prestressed concrete bridge, the Lanzhou Yellow River bridge, 304 meters long and 21 meters wide, was built at Lanzhou.

Bridge building technology has also been greatly improved. In stone arch bridges, for an example, before Liberation the largest span remained the 37.37 meter span of the Chaozhou Bridge, more than 1,300 years old. Now the longest span of a stone arch bridge is 116 meters. The bridge builders in Wuxi, Jiangsu absorbed into their work of developing stone arch bridges the best aspects of modern bridge design and construction, and developed a new bridge type: the hyperbolic arch bridge.

While energetically developing bridge building technology, we have also actively adopted new foreign bridge building techniques and designs. For example, the Huoshiyan bridge over the Han River at Ankang, completed in 1975, uses a recently-developed design, the oblique tension bridge. The main span is 120 meters long, and is currently the longest oblique tension bridge span. In addition, China's first combined aircraft runway-highway overpass bridge, on the route to the Capital International Airport in the suburbs of Beijing, has a net height of 4.5 meters and a breadth of 60 meters. Atop the bridge are an aircraft runway, a motor vehicle road and an exhaust deflector. It supports 500 tons, and below it are a walkway and fast and slow car lanes separated by cinder block or a green barrier. The lower part consists of inverted-trapezoid thin-walled steel-reinforced concrete piers, while the upper section consists of 10 52-meter-long, 310-ton box-shaped beams. The bridge bears the heaviest load of all bridges in China.

Containerized Highway Transport

The use of motor vehicles to transport containers by road is an important way of utilizing door-to-door transport and realizing the maximum economic benefit from container transport. At present, highway container transport in China is in the initial stage, and is generally used only for shipment between truck terminals, harbors and warehouses. According to statistics, in 1979 rail-highway door-to-door transportation performed by motor vehicles accounted for 13 percent of all railroad container transport. In addition, highway shipping departments in such areas as Shanghai, Tianjin, Heilongjiang, Anhui, Jiangsu and Guangdong have begun various degrees of initial development of direct highway transport of containers. The shipping departments have taken many steps to induce shippers to use containers, such as simplifying consignment procedures to make them more convenient for the shippers, drawing up container pricing methods and standards so that they give the shippers the maximum economic advantage, improving truck facilities to meet container-associated requirements for standardization, series design and the like, and developing a system of priority transport for containers so as to bring vehicle efficiency into play. It is forecast that when the shipping departments extend container transport to distant suburbs from the cities, China's highway container transport will undergo rather considerable development.

Highway Transport of Large and Heavy Items

As science and technology have developed, industrial equipment has tended to become larger and heavier; some individual pieces weigh as much as several dozen tons to several hundred tons, with external dimensions up to several tens of meters. This has greatly exceeded the limits set for highway and transport vehicles. Transporting this equipment without a hitch to construction sites for installation is an extremely complex task. Experience shows that in organizing transport of large or heavy items four problems must be solved: 1. selection of a vehicle and preparation of a loading diagram; 2. choice and improvement of the transport route; 3. determination of the loading and unloading procedure; 4. implementing organizational and technical measures for transport. At present China's transport capabilities for large and heavy items are already respectable. The largest load capacity of a single unit is 600 tons; the greatest-length item that can be transported is over 70 meters long. Special transport bases for large and heavy items have been set up in the Tianjin, Wuhan, Kunming, Cangzhou, Shanghai, Beijing, Chengdu and Shenyang areas. These are capable of transporting large or heavy items on a national scale. According to statistics from motor transport enterprises subordinate to the Ministry of Communications, in 1975-1979 more than 28,600 tons of heavy and large items were carried, including more than 150 items weighing over 80 tons; the largest was 354 tons.

Water Transport

River Transport

In 1979 China had 136,000 kilometers of navigable rivers. The Yangtze, one of the four longest rivers in the world, had about 18,000 kilometers of main stream and tributaries navigable by steamers.

Since the founding of the state, a great deal of work supporting river navigation has been done in the areas of improvement of channels, harbor construction, boat construction, installation of navigational signals and the like. In the past there were so-called "natural barriers" on the upper reaches of the Yangtze. There were four conditions under which navigation was impossible: at high water, at low water, at night and in bad weather. By means of channel improvements and electrification of navigation signals, natural barriers have now become thoroughfares. Before channel improvement the Hanyu [Hankou-Chongqing] passenger steamer took 20 days to make a round trip, while now it requires 8.

At present, oceangoing vessels in the 10,000 ton class can enter the river and moor at river ports. The harbor areas and berths of many river ports have been improved, expanded and mechanized, and new warehouses and waiting rooms have been built for passenger and freight transport, further increasing their throughput capacity. Special routes, special ships and special wharves are provided for commodities to be shipped in large quantities or over long distances, and lot shipment and containerized shipment have been expanded; priority shipment, priority packaging and shipment on arrival have been adopted for agricultural products, thereby increasing transport speed and improving quality, so that transportation keeps pace with the agricultural seasons. In recent years, the advanced transport method of sectional pushed barge transport has been greatly expanded. Some 300,000 tons of 300-ton to 1,000-ton sectional barges are operating on the country's rivers; the largest pusher tugs are 4,000 horsepower models which can push 12,000-15,000 tons of goods at one time.

As river transport has expanded, the number of steamers and barges operating on rivers of various sizes has increased by more than 10 times from the immediate post-Liberation figure. Most of these boats were built here after Liberation. At present, there are almost 800 plants serving transport along the main Yangtze River routes alone; these are capable of designing and producing 4,000 horsepower tugs.

In 1979, river transport carried 320 million tons of goods, an increase of 11 times over the immediate post-Liberation figure.

Coastal Transport

China has 18,000 kilometers of continental coastline, several thousand sea islands and many excellent ice-free harbors. In the 30 years since Liberation, China's coastal transport has expended greatly, and the amount of goods carried has doubled and redoubled. In 1979 coastal transport carried 68 million tons of goods and performed 45.6 billion ton-kilometers of transport work, primarily carrying coal, petroleum and iron ore.

China's coastal transport is centered on Luda, Shanghai and Guangzhou. All coastal ports can be reached from these locations. The most important coastal transport enterprises include the Shanghai Marine Transport Bureau and the Guangzhou Marine Transport Bureau, which primarily are responsible for long-range internal and coastal goods and passenger transport. The Shanghai Marine Transport Bureau carries more than 36 million tons of freight annually. The Guangzhou Marine Transport Bureau carries more than 13 million tons a year. In addition, the coastal provinces have their own marine transport bureaus, which primarily deal with intraprovince coastal transport. New routes opened in 1979 included Shanghai-Hong Kong, Guangzhou-Hong Kong and Amoy-Hong Kong.

Ocean Transport

China's ocean transport is carried out by the China Marine Transport Corporation, located in Beijing. The corporation has branch offices in Shanghai, Guangzhou, Qingdao, Tianjin and Dalian. In addition, there are companies run jointly with other countries, such as the China-Poland Marine Transport Company, the China-Tanzania Joint Transport Company, the China-Sri Lanka Joint Marine Transport Line and the like, as well as the People's Republic of China Business Agency in Hong Kong.

In all the areas where the transport companies are located and in the main harbors there are also such training and support organizations as seamen's schools, crew bases, seamen's hospitals and ship supply stations, which directly support ship personnel's transport work and the sailor's daily livelihood.

By 1979 China had constructed an ocean-going transport fleet consisting of more than 400 bulk cargo ships, miscellaneous cargo ships, tankers, passenger ships, liquid cargo ships and container ships with a capacity of more than 7 million tons. This fleet has become the main force for foreign trade, and has fundamentally altered the past situation of relying primarily on rental of foreign vessels.

China's marine routes originate in Shanghai, Guangzhou, Qingdao, Tianjin, and Dalian. There are four main routes:

The eastern route, from the major coastal ports east to Japan, and across the Pacific to Canada, the United States and Latin America;

The western route, from the major coastal ports westward through the Indian Ocean, the Suez Canal, the Mediterranean to the Atlantic, or south around the Cape of Good Hope into the Atlantic, with stops at ports in various countries of South Asia, Africa and Europe;

The southern route, from the major coastal ports southward to the countries of South-east Asia and Oceania;

The northern route, from the various coastal ports north to Korea and the east coast ports of the Soviet Union.

In 1961 China's maritime vessels stopped only at 13 ports in 5 countries. By 1979, they were stopping at more than 400 ports in more than 100 countries and regions.

Some of China's maritime transport vessels were bought abroad and some were built in China. In 1968, China used imported materials and equipment to assemble the 10,000 ton freighter Yuejin, and in 1965 by its own efforts it produced the 10,000-ton steamer Dongfeng. By 1979, China had already constructed a 25,000-ton freighter, a 7,500-ton passenger ship and freighter, and a 50,000-ton tanker, which helped China in foreign trade and the import of large-sized manufacturing equipment and badly-needed commodities.

Construction of Coastal Ports

Coastal ports are important nodes in the connection between land and water transport and important thoroughfares by which domestic and foreign commodities are exchanged. There are 15 major harbors on China's extensive coastline, and in 1972 their handling capacity was about 100 million tons. With the steady increase in foreign trade and the steady development of the domestic economy, the original port facilities and capabilities became inadequate for the needs of the developing situation. In 1973 the state decided to expand port cargo handling facilities, and after several years' effort it completed construction of a group of bulk cargo and miscellaneous cargo wharves, making a considerable change in the appearance of the ports. Originally the only crude oil facilities were Dalian's facilities for 20,000-ton vessels, which had very small capacity. There are now 4 ports with moorings for 100,000, 50,000 and 20,000 ton tankers. The annual petroleum transport capacity can be as high as 41 million tons. The coal and miscellaneous cargo docks' handling capacities have also been rather considerably increased. Container docks are being built at the Tianjin, Shanghai and Huangpu harbors, and will soon be in operation.

In 1979, 42 10,000-ton or higher larger deep-water moorages had been built in China's 15 coastal ports, so that their handling capacity was up 66 percent over the 1973 figure and 22 times greater than shortly after Liberation. In 1979, 212.57 million tons of cargo was handled, up 6 percent from the 1978 figure. At the same time, 150 production lines have been opened at old wharves, and the passenger facilities and fuel and water supply facilities have also been modernized.

Aviation

The Development of China's Civil Aviation

After 30 years of development, by 1979 Chinese civil aviation already had 173 routes, including 158 domestic routes and 15 international routes. The total length of all air routes, eliminating duplication, is 159,971 kilometers, including 108,658 kilometers in domestic routes and 51,313 kilometers in international routes.

More than 80 cities are on the domestic routes. Chinese civil aviation's production equipment is being gradually modernized, and currently with the exception of medium and small aircraft used for industrial and agricultural aviation work (such as aerial surveys, mineral prospecting, insect control, seeding, weed eradication, fertilizer application, forest protection, sea rescue and the like), the primary aircraft used in air transport are the AN-24, AN-12, Viscount, Il-18, Trident, Il-62 and Boeing 707. To meet the needs of expanding tourism and the opening of new international routes, in 1979 3 Boeing 747SP wide-bodied jets were imported, officially entering scheduled service in 1980. These aircraft can carry 291 passengers, have an average speed of 950 kilometers per hour and can fly nonstop for about 15 hours.

In the last 30 years, Chinese civil aviation's carrying capacities have developed at a rate of 20.65 percent a year. In 1979, total transport turnover was 380 million ton-kilometers, up 26 percent over 1978; passenger transport amounted to 2.93 million passengers, up 26 percent over 1978; parcel post capacity was 77,000 tons, up 22 percent over 1978. Specialized aviation logged 39,700 hours, up 37 percent from 1978.

In 1979 17 new routes were opened, including 3 international and 14 domestic routes.

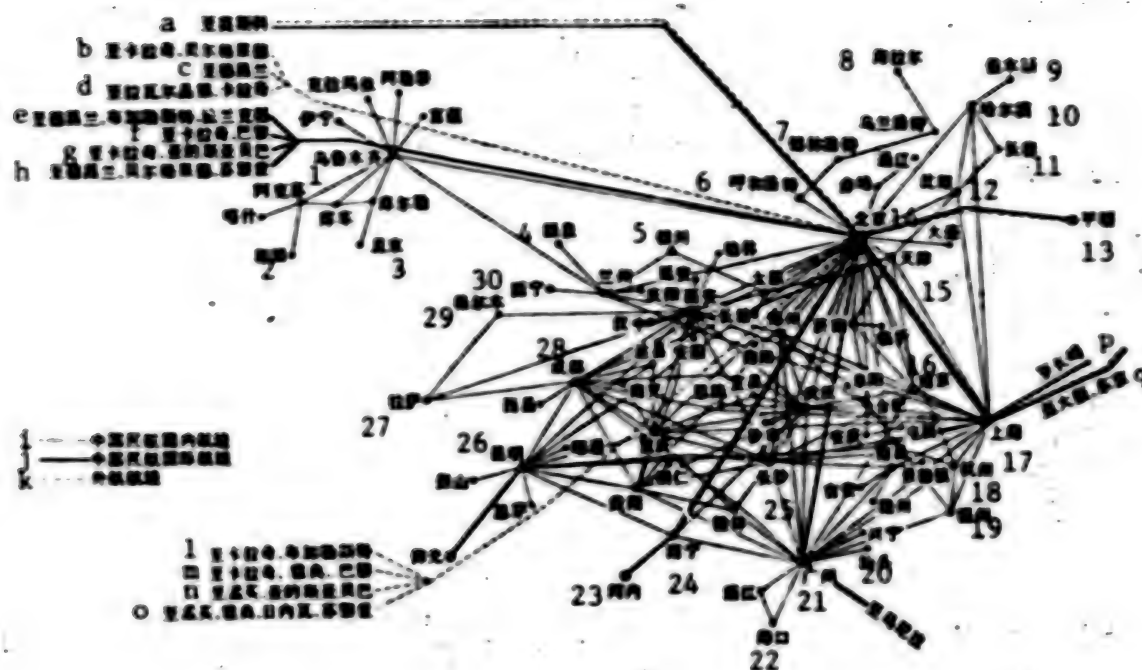
The three newly-opened international routes are: Beijing-Guangzhou-Manila, Beijing-Tehran-Bucharest-Frankfurt and Beijing-Shanghai-Nagasaki.

The 14 new domestic lines are: Guangzhou-Fuzhou, Guangzhou-Xingning, Xi'an-Lhasa, Shanghai-Hefei-Wuhan, Urumchi-Ku'erle-Qiemo, Shanghai-Wuhan-Chengdu, Shanghai-Chongqing, Tianjin-Nanjing-Guangzhou, Tianjin-Shanghai, Chengdu-Guangzhou, Beijing-Wuhan-Guiyang, Beijing-Wuhan-Nanning, Wuhan-Xi'an and Beijing-Harbin.

According to preliminary plans for Chinese tourism, in 1983 the number of foreign tourists entering the country will be 1 million, and by 1985 the figure will increase to 3-3.5 million. This is a forecast for a rather large expansion of China's civil aviation, requiring the provision of even greater transport capacities. It is forecast that by 1985 total transport turnover will increase to 0.8-1 billion ton-kilometers, while at the same time the number of passengers carried will increase to 7-10 million.

China's Largest Modern Airport: the Capital International Airport

The Capital International Airport is located in Shunyi County, in Beijing's northeastern suburbs, 25.2 kilometers from Tian'anmen in the center of the city. This airport was put into operation in 1958. Its original runway (the east runway) was 3,200 meters long, 60 meters wide and 25 centimeters thick; the waiting terminal had an area of 10,711 square meters. In order to meet the needs of international traffic and to accommodate large aircraft, in 1974 expansion was undertaken. The new expanded runway and terminal were officially put into operation on New Year's Day 1980.



Key to map:

- a. To Moscow
- b. To Karachi, Belgrade
- c. To Tehran
- d. To Rawalpindi, Karachi
- e. To Tehran, Bucharest, Frankfurt
- f. To Karachi, Paris
- g. To Karachi, Addis Ababa
- h. To Karachi, Belgrade, Zurich
- i. Chinese Civil Aviation domestic routes
- j. Chinese Civil Aviation international routes
- k. Foreign routes
- l. To Karachi, Bucharest
- m. To Karachi, Athens, Paris
- n. To Bombay, Addis Ababa
- o. To Bombay, Athens, Geneva, Zurich
- p. To Nagasaki
- q. To Osaka, Tokyo

1. Urumchi	11. Changchun	21. Guangzhou
2. Khotan	12. Shenyang	22. Haikou
3. Qiemo	13. Pyongyang	23. Hanoi
4. Jiuquan	14. Beijing	24. Nanning
5. Yinchuan	15. Tianjin	25. Changsha
6. Huhehot	16. Nanjing	26. Kunming
7. Xilinhaote	17. Shanghai	27. Lhasa
8. Haila'er (Hailar)	18. Hangzhou	28. Chengdu
9. Jiamusi	19. Fuzhou	29. Golmad
10. Harbin	20. Shantou	30. Xining

The runway built during the expansion (the west runway) is 3,200 meters long, 50 meters wide and 38 centimeters thick and can support 400 tons; it can be used by the world's largest aircraft, such as the Boeing 747, the DC-10 and the Concorde.

The new terminal includes a main terminal building and two satellite buildings connected to it by arcades. Each of the satellite buildings has 8 stations to accommodate the large and medium sized aircraft. The terminal was designed to accommodate 1,500 travelers at peak periods, and has a total space of 59,500 square meters. The parking lot can accommodate 400 automobiles. In order to provide for future expansion of passenger accommodations, space for an additional satellite building has been reserved west of the terminal. In addition, a little way to the south of the terminal is a 12,750-square-meter guest house with 300 beds.

The new terminal has five floors, including a basement and the equipment floor, and arriving and departing passengers use different levels.

There are private entrances for distinguished visitors at each end of the terminal on the first floor, including a VIP lounge and various special facilities. The first and second floors also have group lounges and boarding lounges. On the south side of the east end of the first story are the foreign airlines' offices. Travelers service facilities in the terminal include: telegraph, telephone, postal facilities, banking, automobile rental, baggage checking, information, broadcast, arrival and departure information and baggage transport display systems, and various guide facilities. Transport support facilities include: closed circuit television, teletypewriter, dispatcher telephone and loudspeaker communication.

The new terminal has an in-situ poured concrete framework, steel roof trusses and a raft-type foundation and is designed to withstand an earthquake of magnitude 8. The decoration of the building aims at simplicity and light, and has allowed for thermal insulation and sound absorption. The external walls and the main hall use traditional Chinese construction techniques and have murals rich in national flavor, as well as such artistic adornments as lacquer and colored ink pictures. In addition, new building materials have been used. Building facilities include air conditioning, heating, liquid petroleum gas, fire protection, running water, sewage, hot water and lighting systems.

The expansion of the capital airport is still under way. In 1980 it is planned to complete conversion of the original east runway into the main runway by extending it to 3,800 meters and increasing its thickness to 42 centimeters; at the same time, a major effort is being made to complete the construction of the new tower for the flight control and dispatching center and the like.

Developing Tourist Charter Aviation

In order to develop tourism, Chinese civil aviation has actively promoted tourist charter flights. On the basis of incomplete statistics, in 1979 China's civil aviation organizations carried out 2,500 tourist charter and international charter flights. The tourist charter routes include routes from Europe to Beijing, from Japan to Shanghai and Beijing, and from Hong Kong to Beijing, Guangzhou, Shanghai, Hangzhou, Nanjing, Guilin and Kunming. In order to transport tourists to the Beidaihe River and Changde, special Beijing-Beidaihe and Beijing-Chengde unscheduled tourist charter routes have been opened. The relevant departments of the Shanghai Civil Aviation Management Office and the Shanghai Travel Agency have operated

various tourist charter and extra flights; in 1979 they arranged a total of over 180 tourist charter flights, carrying more than 22,800 Chinese and foreign passengers. Tourist packages, including 8-day and 10-day trips from Hong Kong to Nanjing and Hong Kong to Hangzhou, 3-day trips from Shanghai to Guilin, 1-day trips from Shanghai to Beijing and honeymoon trips from Shanghai to Nanjing have been arranged, in addition to which many tourist charters for foreign visitors, overseas Chinese and residents of Hong Kong and Amoy from Shanghai to Beijing, Guangzhou, Guilin, Qingdao and Hangzhou have been organized. The Guangzhou Civil Aviation Management Office organized 84 tourist charter flights from Hong Kong to Guangzhou, Guilin and Kunming and elsewhere between 20 September 1979 and the end of the year.

Goods Turnover of China's Modern Transport Facilities
(hundreds of millions of ton-kilometers)

Type	1949	1952	1978	turnover	1979	1949=100
					increase over previous year %	
Total goods turnover	255	762	9,806	10,897	11.1	4,273.4
Railroad	184	602	5,333	5,588	4.8	3,037.0
Highway*	8	14	274	268	-2.2	3,350.0
Water transport	63	146	3,779	4,564	20.8	7,244.4
Civil Aviation	0.2		1.0	1.2	20.0	600.0
Pipeline transport of oil or gas			419	476	11.1	

* The highway transport figure refers to transport by the Ministry of Communications and does not include transport by the industrial enterprises.

Posts and Telecommunications

Historical Survey of China's Posts and Telecommunications

The people's postal services in China began during the revolutionary war. In 1928, in the Jinggangshan Revolutionary Base Area, the Xianggan Border Workers and Peasants Democratic Government formally established the "Red Post Office," serving workers, peasants and soldiers, and in 1929 issued stamps depicting a red star and a sickle and axe. During the first reactionary "bandit encirclement" struggle Red Army fighters captured a 15-watt radio station and set up a wireless brigade. The birth of the "Red Post Office" in the Jinggangshan Revolutionary Base Area and the formation of the Red Army's wireless brigade marked the Chinese people's acquisition of their own post and telecommunications operations; this was the beginning of a new chapter in the history of Chinese posts and telecommunications.

In 1 November 1949, the Ministry of Posts and Telecommunications of the Chinese People's Republic was formally established, to centrally manage and administer the nation's posts and telecommunications activity; during the 3 years' recovery and the subsequent work of development and construction, it developed into a posts and telecommunications network centered on Beijing and reaching out into the vast

countryside. Posts and telecommunications serve as an important component of the social productive forces and are playing an increasingly important role in socialist construction and the people's livelihood.

In 1979 the country had 49,647 posts and telecommunications bureaus and offices, 1.9 times as many as in 1949; there were a total of 791,189 posts and telecommunications personnel, 7.7 times more than in 1949; the total business done by posts and telecommunications was 1,255.46 million yuan, 12.9 times more than in 1949.

Posts

In 1979, the total length of postal routes throughout the country was 4,812,271 kilometers, including 161,610 kilometers of air postal routes, 148,876 kilometers of railroad postal routes and 574,732 kilometers of motor postal routes. A total of 99.8 percent of rural people's communes and 96.9 percent of production brigades were on postal routes.

In 1979 the posts handled 3,079,000 letters, 15,919,000 documents and 70,746,000 parcels. The number of periodical issues carried was 126,804,000. The total number of copies of periodicals issued was 16,069,059,000.

Postal codes. In January 1981 the Ministry of Posts and Telecommunications held a conference and decided that starting on 1 July 1980 a nationwide postal code system would be instituted. The postal codes are based on the routes taken by letters and on the delivery areas. The country's several tens of thousands of posts and telecommunications bureaus and offices are each assigned a 6-digit number in Arabic numerals, the postal code. In this 6-digit number, the first 2 digits indicate the province, municipality or autonomous region, the third digit gives the postal region, the fourth gives the county or city, and the last 2 digits give the delivery office and its delivery area. The implementation of the postal code system creates the conditions for using machinery to sort letters and for gradually developing a modern posts and telecommunications network, makes manual sorting simpler, decreases handling time and makes mail delivery faster and more accurate.

Postage Stamps. China's postage stamps are issued by the Ministry of Posts and Telecommunications. They are divided into ordinary stamps, commemorative stamps and special stamps. Ordinary stamps are for general use. Commemorative stamps are issued to commemorate some historical event or outstanding or heroic person. Special stamps are used to propagandize some valuable or significant event. In the period immediately after Liberation, postage due and airmail stamps were issued.

China's first postage stamps were issued in 1865 by the chancery of the Ministry of Works in the Shanghai concession. In 1878 the Shanghai Customs Office issued the Qing Dynasty government's first postage stamp, which bore the image of a dragon's head, and the stamps were accordingly called "dragon heads."

In 1928 the Xianggan Border District Worker-Peasant Democratic Government in the Jinggangshan Revolutionary Base Area established the "Red Post Office," and in 1929 it issued the first postage stamps, bearing a red star and a sickle and axe.

In 1979 the Ministry of Posts and Telecommunications issued 83 varieties of stamps in 26 sets. Of these, there were 32 varieties of commemorative stamps in 15 sets and 4 small-size stamps in 4 sets; 50 varieties of special stamps in 10 sets and 4 small-size varieties in 3 sets were issued; and there was 1 issue of 1 variety of ordinary stamp.

Between 1949 and 1979, a total of 1,606 stamp varieties in 386 sets were issued.

Telecommunications

In 1979 China was operating the following main telecommunications services: telegraph (including public telegraph and telex), telephone (including long distance telephone, long distance conference telephone, urban telephone and rural telephone), and facsimile (including photograph transmission and facsimile). In addition it was in charge of broadcasting radio and television programs.

The quantities of telecommunications work in 1979 were as follows: 134,950,000 telegrams sent, 54,000 facsimiles, 205,869,000 long distance telephone calls, 1,270,160 urban telephone sets in operation by the end of the year, 762,842 rural telephone sets in operation by the end of the year.

Currently, China has 711,925 kilometers of long distance open-wire equipment and 29,092 long distance voice channels.

China started constructing microwave trunk lines in 1969, and now has more than 14,500 kilometers of these lines; 960-channel and 600-channel microwave links connect 26 provinces, municipalities and autonomous regions, and transmit telegrams, telephone messages, facsimile, and television and radio programs. Newspaper facsimile service has been instituted between Beijing and 9 cities including Chengdu, Guangzhou and Nanning.

China's first 1,800-channel coaxial cable, the Jinghuhang [Beijing-Shanghai-Hangzhou] coaxial cable carrier-wave project, was begun in October 1973. Now circuits are open between Beijing, Tianjin, Shijiazhuang, Jinan, Hefei, Nanjing, Shanghai and Hangzhou. This equipment has been used to initiate automatic and semiautomatic long distance dialing.

The country's urban telephone exchange capacity is 1,852,470 circuits, including 1,161,630 automated telephone exchange circuits. On average, there are 0.4 telephones per hundred inhabitants.

The Beijing Telegraph Building is China's domestic and international telecommunications center; it forms a national telegraph communications network centered on Beijing and connecting all of the provinces, municipalities, autonomous regions, areas or cities, and counties. It primarily uses electrical cables, short wave, microwave and satellite transmission methods to transmit public telegraph, telex, facsimile, newspaper facsimile, and data link communications.

In recent years, because of the rapid development of telex, the telegraph building has adopted domestically-produced electronic fully automated telex exchanges, thereby further developing China's telegraph services.

The Beijing Long-Distance Telephone Building is the center of China's domestic and international long distance telephone communications. It contains 1,800-channel coaxial carrier wave equipment, 960-channel microwave equipment, coded distribution frame long distance automatic telephone exchanges, simple cordless long-distance telephone exchange consoles and image transmission equipment. This equipment was all developed by the scientific and technical personnel and workers of the China Posts and Telecommunications system with the support of its brother departments. The use of this new equipment has made available important communications capabilities, and

has made telecommunications service more intensive and extensive, as well as providing some foundation for future implementation of large-channel-based communications equipment.

International Communications

China has established direct postal relations with 100 countries and areas, and has established circuits to 47 countries and areas.

Three communications satellite ground stations in Beijing and Shanghai maintain direct satellite voice channels with 27 countries via international communications satellites over the Indian and Pacific Oceans.

In addition, an undersea cable has been laid between China and Japan. It has a capacity 480 channels and was officially put into operation on 25 October 1976.

China's Relations with International Postal and Telecommunications Organizations

On 13 April 1972 China recovered its lawful rights in the International Postal Union. China is currently a member of the Executive Council and Advisory Council of the organization.

On 29 May 1972, China regained its legal rights in the International Telecommunications Union. Currently it is a member of that organization's executive committee.

On 17 November 1975 China joined the Asia-Oceania Postal Union, and participated in its Third Conference and in all executive and consultative conferences since 1976.

The International Telecommunications Satellite Organization is a commercial organization of national governments aimed at developing global satellite communications. In August 1977 China formally joined this organization.

The Asia-Oceania Regional Telecommunications Organization was formally established on 8 May 1979. On 25 October 1976 China signed the charter and formally joined the organization.

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